Contents

Parts and Controls
- Version with Bike Handle 2
- Version with "J" Handle 2
- Version with Loop Handle 4
- Version with Loop Handle and Standoff Lever 4
- All Versions 4
Safety Precautions and Working Techniques 6
Selecting the Cutting Tool 16
Mounting the Bike Handle 18
Mounting the "J"-Handle 19
Mounting Loop Handle with Standoff Lever 19
Mounting the Loop Handle
- Version A 20
- Version B 21
Mounting the Deflector 22
Mounting the Cutting Tools 23
- STIHL Supercut 20-2 24
- STIHL Polycut 20-3 24
- STIHL Autocut 20-2 25
- STIHL Autocut 25-2 25
- STIHL Polymatic 30-2 26
- STIHL Autocut 24-2 26
- STIHL Fixed Line Head 27
- Grass Cutting Blade 230 28
Fuel 28
Fueling 30
Fitting the Harness 30
Starting
- Version with Bike Handle 32
- Stop Switch on Throttle Trigger Housing 36
- Stop Switch on Engine Housing 39
Motormanagement 42
Adjusting Carburetor 43
Checking Spark Plug 44
Cleaning Air Filter 45
Spark Arresting Screen in Muffler 46
Gearbox Lubrication 46
Lubricating Flexible Shaft 47
Sharpening Cutting Tools
- Grass Cutting Blade 230-4 48
- Grass Cutting Blade 230-8 48
Operating Instructions 49
Storing the Machine 50
Maintenance Chart 51
Specifications 52
Special Accessories 53
Andreas Stihl Limited Warranty
Federal and California Emission Control Systems Utility Engines 54

Printed on chlorine-free paper

© 1997 Andreas Stihl, Waiblingen

0458 343 3021

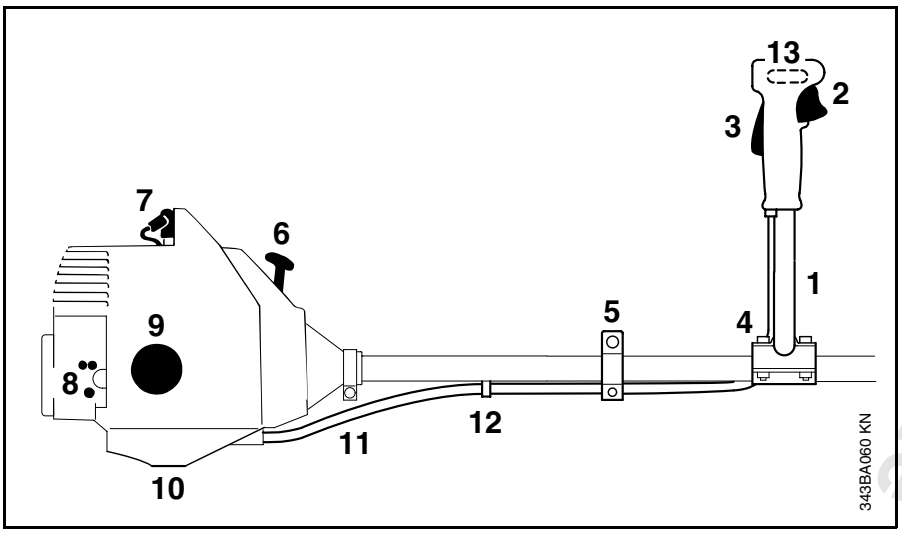
STIHL®

This manual contains warnings, operating and safety precautions for the STIHL FS 44 brushcutter.
Pay special attention to the safety precautions outlined on pages 6 to 15.
Allow only persons who understand this Manual to operate your brushcutter.
To receive maximum performance and satisfaction from your STIHL brushcutter, it is important that you read and understand the maintenance and safety precautions before using your brushcutter. Contact your STIHL dealer or the STIHL distributor for your area if you do not understand any of the instructions in this Manual.

⚠ Warning!
Because a brushcutter is a high-speed cutting tool some special safety precautions must be observed to reduce the risk of personal injury. Careless or improper use may cause serious or even fatal injury. Make sure your unit is equipped with the proper deflector, handle and harness for the type of cutting attachment being used.
Always wear proper eye protection.
STIHL's philosophy is to continually improve all of its products. As a result, engineering changes and improvements are made from time to time. If the operating characteristics or the appearance of your brushcutter differs from those described in this Manual, please contact your STIHL dealer for information and assistance.

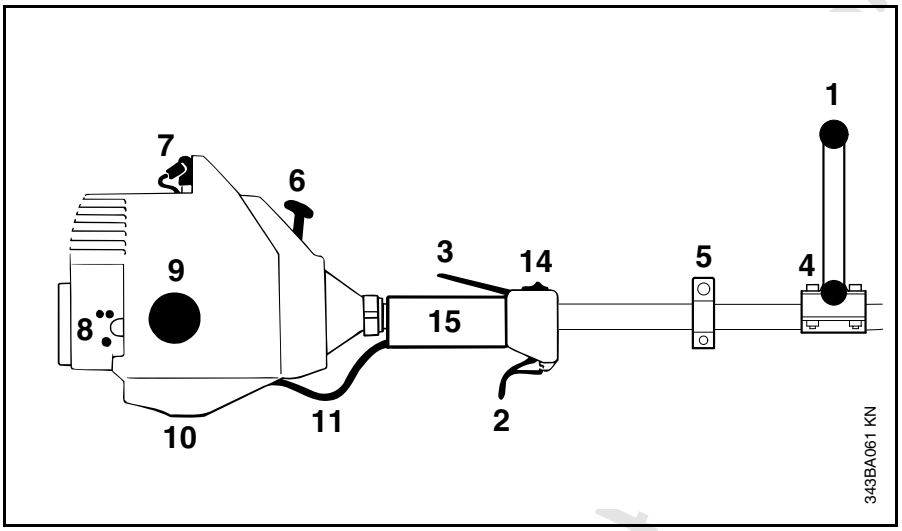
Preview version - not for reprint

Parts and Controls



Bike Handle Version

1 = Bike handle
2 = Throttle trigger
3 = Throttle trigger interlock
4 = Handle support
5 = Clamp (Harness)
6 = Starter grip
7 = Spark plug boot
8 = Carburetor adjusting screws
9 = Fuel filler cap
10 = Machine support
11 = Throttle cable / stop switch wire
12 = Throttle cable retainer
13 = Slide control



"J"-Handle Version

1 = "J"-handle
2 = Throttle trigger
3 = Throttle trigger interlock
4 = Handle support
5 = Clamp (Harness)
6 = Starter grip
7 = Spark plug boot
8 = Carburetor adjusting screws
9 = Fuel filler cap
10 = Machine support
11 = Throttle cable/stop switch wire

14 = Stop switch
15 = Handle hose

for reprint

Definitions

1. **Bike handle, "J"-handle.**
   To hold the brushcutter with both hands.

2. **Throttle trigger.**
   Controls the speed of the engine.

3. **Throttle trigger interlock.**
   Must be depressed before the throttle trigger can be activated.

4. **Handle support.**
   Connects the drive shaft to the handle bars.

5. **Clamp.**
   The device to connect the brush-cutter to the harness.

6. **Starter grip.**
   The grip of the pull starter, which is the device to start the engine.

7. **Spark plug boot.**
   Connects the spark plug to the ignition wire.

8. **Carburetor adjusting screws.**
   For tuning carburetor.

9. **Fuel filler cap.**
   For closing the fuel tank.

10. **Machine support.**
    For resting machine on the ground.

11. **Throttle cable/stop switch wire.**
    Connect operator's control grip to the powerhead.

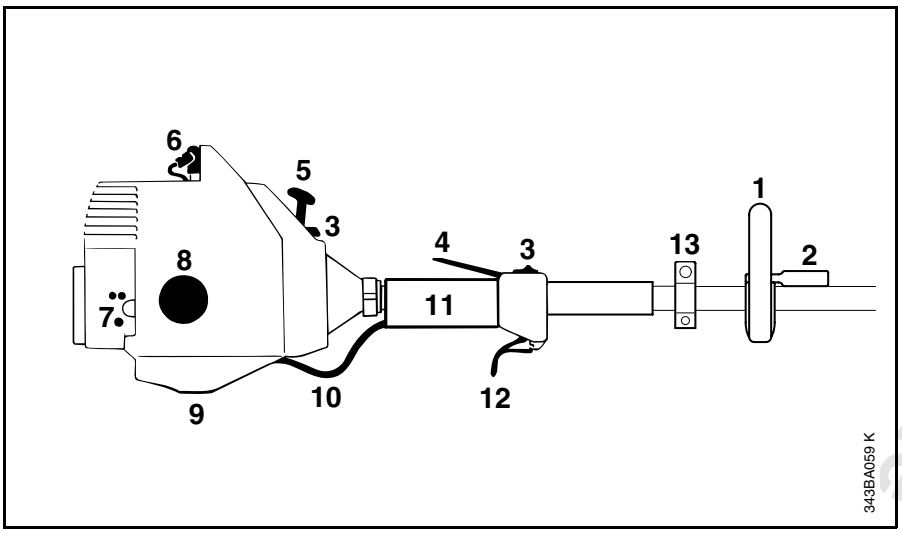
12. **Throttle cable retainer**
    Fixes the throttle cable on the drive shaft.

13. **Slide control.**
    Starting throttle lock and stop switch. Keeps the throttle partially open during starting and switches the engine's ignition off and stops the engine.

14. **Stop switch.**
    Switches the engine's ignition system off and stops the engine.

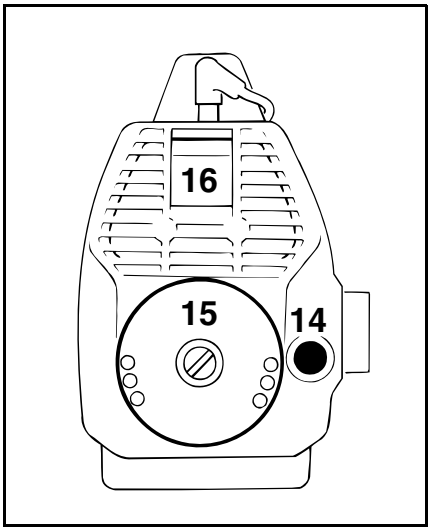
15. **Handle hose.**
    For holding machine during starting and cutting work.

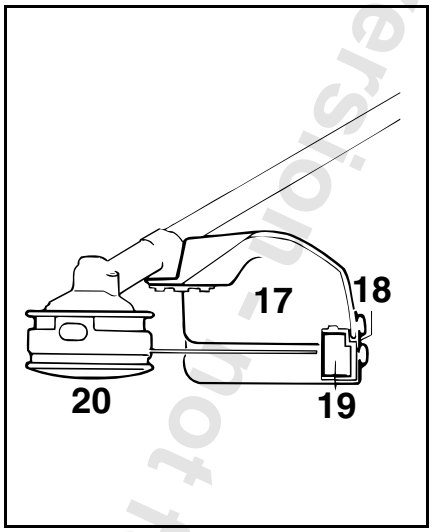
Online version - not for reprint



Versions with loop handle and loop handle with standoff lever

1 = Loop handle
2 = Standoff lever
3 = Stop switch [1)]
4 = Throttle trigger interlock [2)]
5 = Starter grip
6 = Spark plug boot
7 = Carburetor adjusting screws
8 = Fuel filler cap
9 = Machine support
10 = Throttle cable
11 = Handle hose
12 = Throttle trigger
13 = Clamp (Harness) [2)]





All versions

14 = Fuel pump
15 = Air filter cover / choke
16 = Muffler

17 = Deflector
(version for all cutting tools)
18 = Skirt
19 = Line limiting blade
20 = Cutting tool
(STIHL "Supercut 20-1")

[1)] Position varies according to country-specific requirements
[2)] Not all markets

Machine Version - not for reprint

Definitions

1. **Loop handle.**
   To hold the brushcutter with both hands.

2. **Standoff lever.**
   Helps keep unit at a safe distance from operator's feet and legs.

3. **Stop switch.**
   Switches the engine's ignition system off an stops the running engine.

4. **Throttle trigger interlock.**
   Must be depressed before the throttle trigger can be activated.

5. **Starter grip.**
   The grip of the pull starter, which is the device to start the engine.

6. **Spark plug boot.**
   Connects the spark plug to the ignition wire.

7. **Carburetor adjusting screws.**
   For tuning carburetor.

8. **Fuel filler cap.**
   For closing the fuel tank.

9. **Machine support.**
   For resting machine on the ground.

10. **Throttle cable.**
    Connect operator's control grip to the powerhead.

11. **Handle hose.**
    For holding machine during starting and cutting work.

12. **Throttle trigger.**
    Controls the speed of the engine.

13. **Clamp.**
    The device to connect the brush-cutter to the harness.

14. **Fuel pump.**
    Provides additional fuel feed for a cold start.

15. **Air filter cover/ Choke.**
    Covers the air filter element.
    Eases engine starting by enriching mixture.

16. **Muffler.**
    Attenuates exhaust noises and diverts exhaust gases away from operator.

17. **Deflector with Skirt.**
    The deflector is designed to reduce the risk of injury from foreign objects flung backwards toward the operator by the cutting tool and from contact with the cutting tool.

18. **Skirt.**
    The skirt at the bottom of the deflector must be adjusted as discribed in the chapters on mounting the various cutting tools.

19. **Line limiting blade.**
    Metal blade at the skirt in order to keep the line of the cutting head at the proper length.

18. **Cutting tool.**
    The cutting attachment, i. e. blade, made from metal for different purposes (special accessory).

online version, not for reprint

Safety Precautions and Working Techniques

Warning!
Because a brushcutter is a high-speed, fast-cutting power tool, special safety precautions must be observed to reduce the risk of personal injury.

It is important that you read, fully understand and observe the following safety precautions and warnings. Read the owner's manual and the safety instructions periodically. Careless or improper use of any brushcutter may cause serious or fatal injury.
Have your STIHL dealer show you how to operate your brushcutter. Observe all applicable local safety regulations, standards and ordinances.

Warning!
The use of any brushcutter may be hazardous. If the rotating cutting tool comes in contact with your body, it will cut you. When it comes in contact with solid foreign objects such as rocks or bits of metal, it may fling them directly or by ricochet in the direction of bystanders or the operator.

Striking such objects could damage the cutting attachment and may cause blades to crack, chip or break.
STIHL does not recommend the use of rigid blades when cutting in stony areas. Thrown objects or damaged blades may result in serious or fatal injury to the operator or bystanders.

Warning!
Minors should never be allowed to use a brushcutter. Bystanders, especially children, and animals should not be allowed in the area where a brushcutter is in use.

Never let the brushcutter run unattended.

Warning!
Do not lend or rent your brushcutter without the owner's manual. Be sure that anyone using your brushcutter understands the information contained in this manual.

Most of these safety precautions and warnings apply to the use of all STIHL brushcutters. Different models may have different parts and controls. See the appropriate section of your owner's manual for a description of the controls and function of the parts of your model brushcutter.

Safe use of a brushcutter involves
1. the operator
2. the brushcutter
3. the use of the brushcutter.

THE OPERATOR!

Physical Condition
You must be in good physical condition and mental health and not under the influence of any substance (drugs, alcohol, etc.) which might impair vision, dexterity or judgment. Do not operate a brushcutter when you are fatigued.

Be alert - if you get tired while operating your brushcutter, take a break.
Tiredness may result in loss of control.
Working with any brushcutter can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating a brushcutter.

Warning!
Prolonged use of a brushcutter (or other machines) exposing the operator to vibrations may produce whitefinger disease (Raynaud's phenomenon) or carpal tunnel syndrome. These conditions reduce the hand's ability to feel and regulate temperature, produce numbness and burning sensations and may cause nerve and circulation damage and tissue necrosis.

All factors which contribute to white-finger disease are not known, but cold weather, smoking and diseases or physical conditions that affect blood vessels and blood transport, as well as high vibration levels and long periods of

Online Version - not for reprint

exposure to vibration are mentioned as factors in the development of whitefinger disease. In order to reduce the risk of whitefinger disease and carpal tunnel syndrome, please note the following:

- Most STIHL power tools are available with an anti-vibration ("AV") system designed to reduce the transmission of vibrations created by the engine to the operator's hands. An AV system is recommended for those persons using power tools on a regular or sustained basis.
- Wear gloves and keep your hands warm.
- Keep the AV system well maintained. A brushcutter with loose components or with damaged or worn AV buffers will tend to have higher vibration levels.
- Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressures, take frequent breaks.

All the above mentioned precautions do not guarantee that you will not sustain whitefinger disease or carpal tunnel syndrome. Therefore continual and regular users should monitor closely the condition of their hands and fingers.
If any of the above symptoms appear, seek medical advice immediately.

Proper Clothing

Warning!

Brushcutter operation can cause serious injury to eyes, ears and person. The deflector provided with your brushcutter may not protect the operator from all foreign objects (gravel, glass, wire, etc.) thrown by the rotating cutting attachment. Thrown objects may also ricochet and strike the operator. Therefore, to reduce the risk of injury to your eyes never operate a brushcutter unless wearing goggles or properly fitted safety glasses with adequate top and side protection complying with ANSI Z 87.1 (or your applicable national standard). To reduce the risk of injury to your face STIHL recommends that you also wear a face shield or face screen over your goggles or safety glasses.

Warning!

Brushcutter noise may damage your hearing. Wear sound barriers (ear plugs or ear mufflers) to protect your hearing. Continual and regular users should have their hearing checked regularly.

Wear proper protective clothing.

Protect your hands with gloves when handling the brushcutter and the cutting tool. Heavy-duty, nonslip gloves improve your grip and protect your hands.

Clothing must be sturdy and snug-fitting, but allow complete freedom of movement. Avoid loose-fitting jackets, scarfs, neckties, jewelry, flared or cuffed pants, unconfined long hair or anything that could become caught on branches, brush or moving parts of the unit. Wear long pants made of heavy material to protect your legs. Do not wear shorts, pants, sandals or go bare foot. Secure hair so it is above shoulder level.

Good footing is most important in brushcutter work. Wear sturdy boots with nonslip soles. Steel-toed safety boots are recommended.

Wear an approved safety hard hat to reduce the risk of injury to your head when there is a danger of head injuries.

Online Version not for reprint

THE BRUSHCUTTER

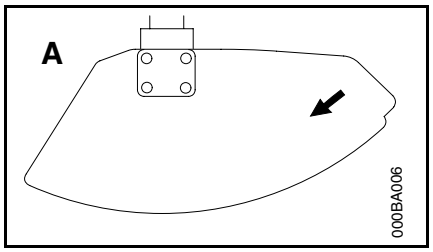
For illustrations and definitions of the brushcutter parts see the chapter on "Parts and Controls"

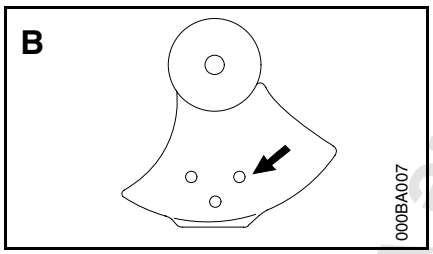
Warning!
Never modify a brushcutter in any way. Only attachments supplied by STIHL or expressly approved by STIHL for use with the specific STIHL brushcutter models are authorized. Although certain unauthorized attachments are useable for the STIHL brushcutter, their use may, in fact, be extremely dangerous.

THE USE OF THE BRUSHCUTTER

Transporting the brushcutter

Warning!
Always turn off the engine and make sure the cutting attachment has stopped before putting a brushcutter down. When transporting your brushcutter in a vehicle, properly secure it to prevent turnover, fuel spillage and damage to the brushcutter. Keep metal cutting tools covered with the transport guard (optional accessory).





Preparation for the use of the brushcutter

Adjust carrying harness and hand grip to suit your size before starting work. The machine should be properly balanced as specified in your owner's manual for proper control and less fatique in operation.

Always check your brushcutter for proper condition and operation before starting, particularly the throttle trigger, throttle trigger interlock (if applicable), stop switch, cutting tool, deflector and harness.

Arrows on the deflector **(A)** and stop **(B)** show the correct direction of rotation of the cutting tool.

The throttle trigger must move freely and always spring back to the idle position.The cutting tool must be properly tightened and in safe operating condition. Inspect for loose parts (nuts, screws, etc.) and for cracked, bent, warped or damaged blades.

Fueling

Your STIHL brushcutter uses an oil-gasoline mixture for fuel (see the chapter on "Fuel" of your owner's manual).

Warning!

Gasoline is an extremely flammable fuel. If spilled and ignited by a spark or other ignition source, it can cause fire and serious burn injury or property damage. Use extreme caution when handling gasoline or fuel mix.

Do not smoke or bring any fire or flame near the fuel.

Online Version - not for reprint

Fueling Instructions

Fuel your brushcutter in well-ventilated areas, outdoors.

Warning!
Gasoline vapor pressure may build up inside the gas tank of a two cycle engine depending on the fuel used, the weather conditions, and the venting system of the tank. In order to reduce the risk of burns and other personal injury from escaping gas vapor and fumes, remove the fuel filler cap on your brushcutter carefully so as to allow any pressure build-up in the tank to release slowly. Never remove fuel filler cap while engine is running. Select bare ground for fueling and move at least 10 feet (3 m) from the fueling spot before starting the engine. Wipe off any spilled fuel before starting your brushcutter and check for leakage.

Warning!
Check for fuel leakage while refueling and during operation. If fuel or oil leakage is found, do not start or run the engine until leak is fixed and spilled fuel has been wiped away. If this happens, change your clothing immediately.

Warning!

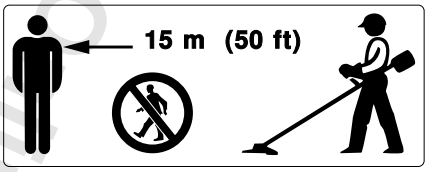
Unit vibrations can cause an improperly tightened fuel cap to loosen or come off and spill quantities of fuel.
In order to reduce risk of fuel spillage and fire, tighten fuel cap by hand with as much force as possible.
The screwdriver end of the STIHL combination wrench or other similar tool can be used as an aid for tightening slotted fuel caps.

Operating instructions

Warning!
Improper use of any brushcutter can cause serious or fatal personal injury. Read, understand and follow all safety instructions in your owner's manual before operating these products. To reduce the risk of personal injury to the operator from blade contact and thrown objects, make sure your unit is equipped with the proper deflector, handle and harness for the type of cutting attachment being used (see chart in chapter on "Selecting the Cutting Tool").
Always wear proper eye protection.

Starting

Warning!
Your brushcutter is a one-person machine. Once started, it may fling foreign objects for a great distance.



To reduce the risk of eye and other injury insure that bystanders are at least 50 feet (15 m) away. Stop the engine and cutting tool immediately if you are approached. Start and operate your brushcutter without assistance. For specific starting instructions, see the appropriate section of your manual. Place the brushcutter on firm ground or other solid surface in an open area. Maintain a good balance and secure footing.

Online Version not for reprint

Warning!
To reduce the risk of injury from loss of control, be absolutely sure that the cutting tool is clear of you and all other obstructions and objects, including the ground, because when the engine starts at starting-throttle, engine speed will be fast enough for the clutch to engage and turn the cutting tool.

Warning!
When you pull the starter grip, don't wrap the starter rope around your hand. Do not allow the grip to snap back, but guide the starter rope to rewind it properly. Failure to follow this procedure may result in injury to hand or fingers and may damage the starter mechanism.

With the engine running but at idle, attach the brushcutter to the spring hook of your harness (see appropriate chapter of this manual).

Working Conditions

Operate and start your brushcutter only outdoors in a ventilated area.

Warning!

Your brushcutter produces toxic exhaust fumes as soon as the engine is running. These gases (e.g. carbon monoxide) may be colourless and odourless. To reduce the risk of serious or fatal injury from inhaling toxic fumes, never run the brushcutter indoors or in poorly ventilated locations.

Warning!
Use of this product can generate dust and fumes containing chemicals known to cause respiratory disease, cancer, birth defects, or other reproductive harm. If you are unfamiliar with the risks associated with the particular dust or fume at issue, consult your employer, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, etc.

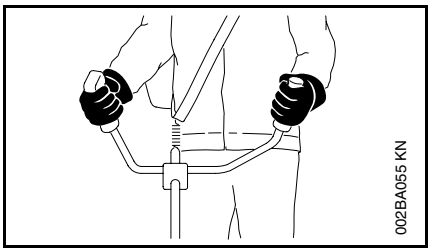
Control dust and fumes at the source where possible. In this regard use good work practices and follow the recommendations of OSHA/NIOSH and occupational and trade associations. When the inhalation of toxic dust and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the type of dust and / or fumes encountered.

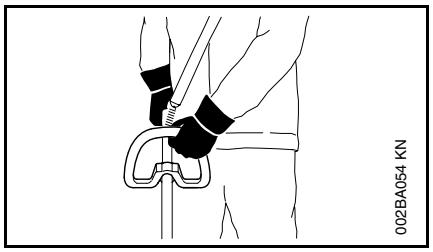
Warning!
The muffler and other parts of the engine (e.g. fins of the cylinder, spark plug) become hot during operation and remain hot for a while after stopping the engine. To reduce risk of burns do not touch the muffler and other parts while they are hot.

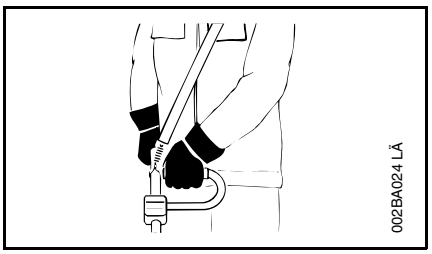
Operate the brushcutter under good visibility and daylight conditions only. Work carefully.

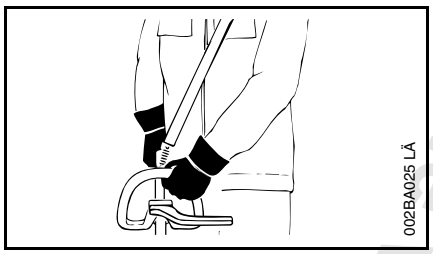
Do not cut any material other than grass, brush and wood. The cutting tools may be used only for the operations described in your manual.

Online Version for reprint









Always hold the brushcutter firmly with both hands. Wrap your fingers tightly around the handles, keeping the handles cradled between your thumb and forefinger. Keep your hands in this position, to have your brushcutter under control at all times. Make sure your brushcutter handles and grip are in good condition and free of moisture, pitch, oil or grease.

Warning!
Never attempt to operate any brushcutter with one hand. Loss of control of the brushcutter resulting in serious or fatal injury may result.

To reduce the risk of bodily injury resulting from loss of control and/or contact with the cutting tool, make sure your unit is equipped with the proper handle and harness for the type of cutting attachment being used (see chart in chapter on "Selecting the Cutting Tool").

Special care must be taken in slippery conditions (wet ground, snow) and in difficult, overgrown terrain. Watch for hidden obstacles such as tree stumps, roots and ditches to avoid stumbling.

Before cutting, inspect the area for stones, glass, pieces of metal, trash or other solid objects. The cutting attachment could throw objects of this kind.

To reduce the risk of injury from thrown objects and blade contact, never operate a brushcutter without a properly mounted deflector. Keep the deflector (and the skirt where appropriate) adjusted properly at all times (see chapter on mounting the various cutting tools of your owner's manual). Do not overreach. Keep proper footing and balance at all times.

Warning!
This brushcutter is normally to be used at ground level with the cutting attachment parallel to the ground. Use of a brushcutter above ground level or with the cutting attachment perpendicular to the ground may increase the risk of injury, since the cutting attachment is more fully exposed and the brushcutter may be more difficult to control. Never use your brushcutter as a hedge trimmer.

Husqvarna version, not for reprint

Warning!
When using rigid blades, avoid cutting close to fences, sides of buildings, tree trunks, stones or other such objects that could cause the brushcutter to kick out or could cause damage to the blade. STIHL recommends use of the nylon line heads or Polycut head for such jobs. In addition, be alert to an increased possibility of ricochets in such situations.

Do not operate using the starting throttle lock as you do not have control of the engine speed. See section of your owner's manual on the proper use of the slide control.

If the cutting tool or deflector becomes clogged or stuck, always turn off the engine and make sure the cutting tool has stopped, before cleaning. Grass, weeds, etc. should be cleaned off the cutting tool at regular intervals.

Warning!
During cutting, check the tightness and the condition of the cutting tool at regular intervals. If the behavior of the tool changes, stop the engine immediately, and check the nut securing the tool for tightness and the cutting tool for cracks and damage. Replace cracked, bent, warped, damaged or dull cutting tools immediately. Such tools may shatter at high speed and cause serious or fatal injury.

Warning!
A loose blade may cause the blade to vibrate, crack, break or come off the brushcutter, which may result in serious or fatal injury. Make sure that the blade is properly tightened. Use the wrench supplied or one of sufficient length to obtain the proper torque. If the blade loosens after being properly tightened, stop work immediately. The retaining nut may be worn or damaged and should be replaced. Never use unauthorized parts to secure the blade. If the blade continues to loosen, see your STIHL dealer. Never use a brushcutter with a loose blade.

Warning!

Keep hands and feet away from cutting tool. Never touch a rotating cutting tool with your hand or any part of your body. It continues to rotate for a short period after the throttle trigger is released (flywheel effect).

Important adjustments

Warning!
To reduce the risk of personal injury from loss of control or contact with the running cutting tool, do not use a cutting tool with incorrect idle adjustment. At correct idle speed, the cutting tool should not move. For directions on how to adjust idle speed, see the appropriate section of your owner's manual.

If you cannot set the correct idle speed, have your STIHL dealer check your brushcutter and make proper adjustments and repairs

Online Version - not for reprint

MAINTENANCE, REPAIR AND STORING

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any nonroad engine repair establishment or individual. However if you claim warranty for a component which has not been serviced or maintained properly or if nonapproved replacement parts were used, STIHL may deny warranty.

Use only identical STIHL replacement parts for maintenance and repair. Use of non-STIHL parts may cause serious or fatal injury.

Follow the maintenance and repair instructions in the appropriate section of your owner's manual. Please refer to the maintenance chart at the last pages of this manual.

Warning!
Always stop the engine and make sure that the cutting tool is stopped before doing any maintenance or repair work or cleaning the brushcutter. Do not attempt any maintenance or repair work not described in your owner's manual. Have such work performed at your STIHL service shop only.

Warning!
Never repair damaged cutting attachments by welding, straightening or modifying the shape. This may cause parts of the cutting tool to come off and result in serious or fatal injuries.

Warning!
Check condition of cutting tool at regular short intervals. If behavior of tool changes, check it immediately for tightness or any signs of cracks in particular. Replace damaged or dull cutting tools immediately, even if they have only superficial cracks. If the blade loosens after being properly tightened, the retaining nut may be worn or damaged and should be replaced. If the blade continues to loosen, see your STIHL dealer. Do not attach any blade to a unit without proper installation of all required parts. Never use unauthorized parts to secure the blade. Failure to use the proper parts may cause the blade to fly off and seriously injure the operator or bystanders.

Warning!
To reduce the risk of fire and burn injuries, check fuel filler cap for leaks at regular intervals. Use the specified spark plug and make sure it and the ignition lead are always in good condition.

Warning!
Never test the ignition system with ignition wire boot removed from spark plug or with unseated spark plug, since uncontained sparking may cause a fire.

Warning!
To reduce the risk of fire and burn injury, use only spark plugs authorized by STIHL. Always press spark plug boot snugly onto spark plug boot of the proper size. (Note: If boot has detachable SAE adapter nut, it must be attached.) A loose connection between spark plug boot and ignition wire connector in the boot may create arcing that could ignite combustible fumes and cause a fire. Keep spark plug clean, and make sure ignition lead is in good condition.

Online version - not for reprint

Warning!
Do not operate your brushcutter if the muffler is damaged, missing or modified. An improperly maintained muffler will increase the risk of fire and hearing loss. Never touch a hot muffler or burn will result. If your muffler was equipped with a spark-arresting screen to reduce the risk of fire (e.g. in the USA, Canada and Australia), never operate your brush-cutter if the screen is missing or damaged. Do not modify or remove any part of the muffler or spark arresting screen. Remember that the risk of forest fires is greater in hot or dry weather.

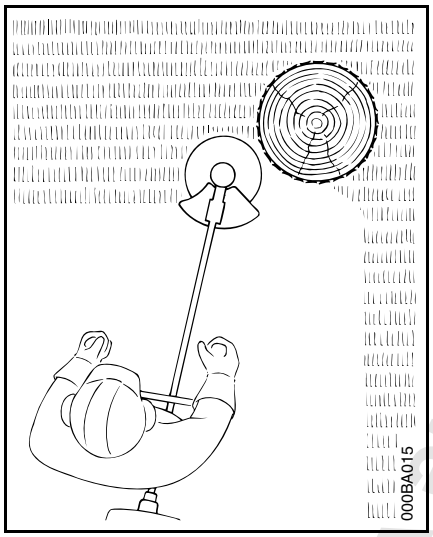
Keep cutting tool sharp. Tighten all nuts, bolts and screws, except the carburetor adjustment screws, after each use.

Additionally, the daily maintenance schedule for your brushcutter set forth in your STIHL Owner's Manual should be strictly followed.
For any maintenance please refer to the maintenance chart **and to the warranty statement** near the end of this manual.

Store brushcutter in a dry, high or locked location out of reach of children.

Before storing for longer than a few days, always empty the fuel tank.

Online Version - not for reprint



USING THE CUTTING TOOLS

For an illustration of the various cutting tools and instructions on proper mounting see the chapter on "mounting the cutting tools" in your owner's manual.

Using the mowing heads

The STIHL Supercut, Autocut, Polymatic and Polycut mowing heads produce a clean and tidy finish.

They are to be used only on brushcutters equipped with a limiter blade in the deflector in order to keep the line at the proper length (see "Parts and Controls" chapter of this manual).

If the lawn edges are planted with trees or bordered by a fence etc., it is best to use a nylon line head. It achieves a "softer" cut with less risk of damaging tree bark etc. than with the polymer blades.

However, the polymer bladed STIHL "Polycut" produces a better cut if there are no plants along the edge of the lawn. Sharpening is not necessary and worn cutting blades are easily replaced.

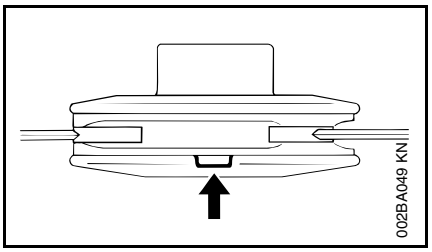
Warning!
To reduce the risk of serious injury, never use wire or metal-reinforced line or other material in place of the nylon cutting lines. Pieces of wire could break off and be thrown at high speed toward the operator or bystanders.

STIHL "Supercut" mowing head
Fresh line is advanced automatically. Frayed line is replaced by a simple adjustment (see instruction sheet supplied with mowing head).

STIHL "Polymatic" mowing head
Frayed line is replaced by a simple adjustment (see instruction sheet supplied with mowing head).

STIHL "Autocut" mowing head
Nylon cutting cord advances automatically when tapped against the ground.

Commercial - not for reprint



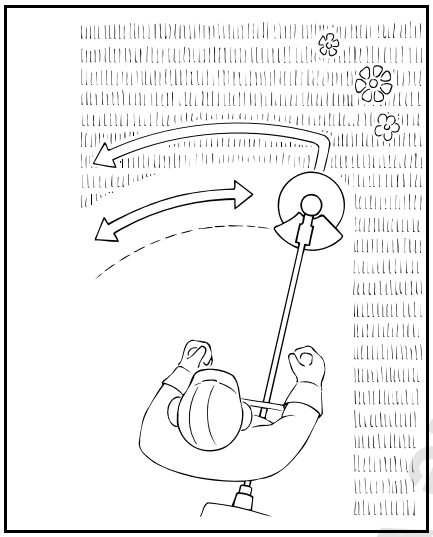
STIHL "Polycut" mowing head

Uses either nylon lines or nonrigid plastic blades

Important!
Three rectangular wear limit marks are applied to the base (periphery) of the Polycut. To reduce the risk of serious injury from breakage of the head or blades, the Polycut must not be used when it has worn as far as one of these marks. It is important to follow the maintenance instructions supplied with the head!

Using the grass cutting blade
All kinds of grass and weeds can be easily cut with the grass cutting blade. The brushcutter is swept in an arc similiar to a scythe.

Warning!
To reduce the risk of serious or fatal injury never attempt to cut woody materials.



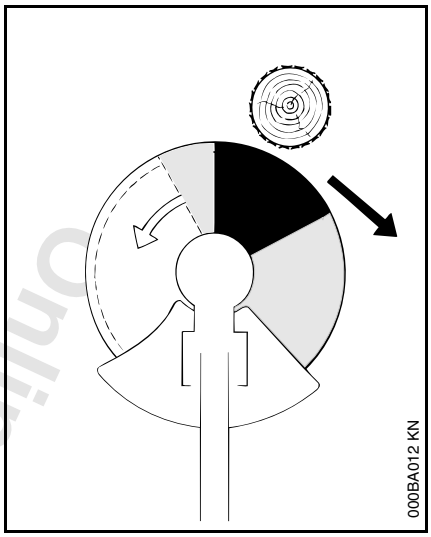
The **4-tooth** grass cutting blade is intended to cut grass and weeds.
It has 4 cutting knives with cutting edges on both sides, i.e. front and rear.

The **8-tooth** grass cutting blade is recommended for cutting fern or reed.

Both blades have to be resharpened when all cutting edges are dull.

Risk of "kickout" (blade thrust) with all rigid cutting blades

Warning!
Kickout (blade thrust) is the sudden and uncontrolled motion towards the operator's right or rear that can occur



when the shaded area of the rotating blade comes in contact with a solid object like a tree, rock, bush or wall. The rapid counterclockwise rotation of the blade may be stopped or slowed, and the cutting attachment may be thrown in an area to the right or to the rear.

This kickout (blade thrust) may cause loss of control of the brushcutter and may result in serious or fatal injury to the operator or bystanders. To reduce the risk of injury, extreme caution should be used when cutting with the shaded area of any rigid blade.

Online Version - Not for reprint

Selecting the Cutting Tool

Cutting tools:

1 STIHL Supercut 20-2 mowing head
2 STIHL Autocut 20-2 mowing head
3 STIHL Autocut 24-2 mowing head
4 STIHL Autocut 25-2 mowing head
5 STIHL Polymatic 30-2 mowing head
6 STIHL Polycut 20-3 mowing head
7 STIHL Fixed Line head

8 Grass cutting blade 230-4
9 Grass cutting blade 230-8

Deflectors:

10 Deflector for mowing heads
11 Deflector for all cutting tools **with**
12 Skirt and line limiting blade
13 Deflector for all cutting tools **without** skirt and line limiting blade

Handles:

14 Loop handle
15 Loop handle **with**
16 Standoff lever
17 J-handle
18 Bike handle

Carrying straps:

19 Shoulder strap recommended
20 Shoulder strap
21 Full harness recommended

A fully equipped brushcutter comprises, among other items:

- Cutting tool
- Deflector
- Handle
- Carrying strap

Select the correct combination from the table according to the cutting tool you intend to use:

For safety reasons, you may only combine the cutting tool, deflector, handle and carrying strap versions shown when you read **the table horizontally from left to right**.

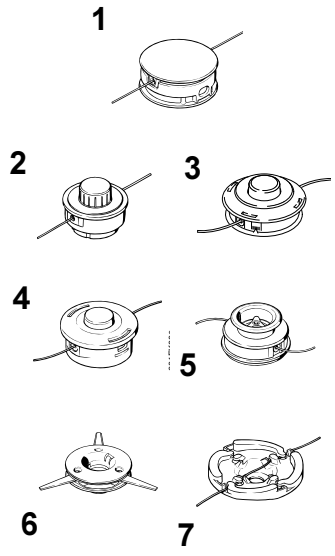
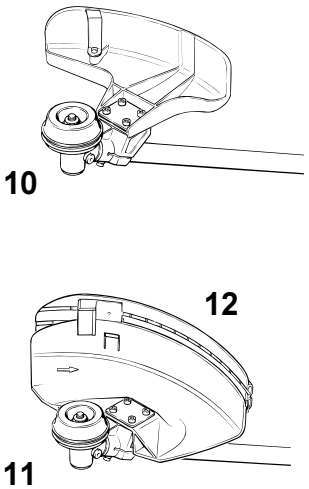
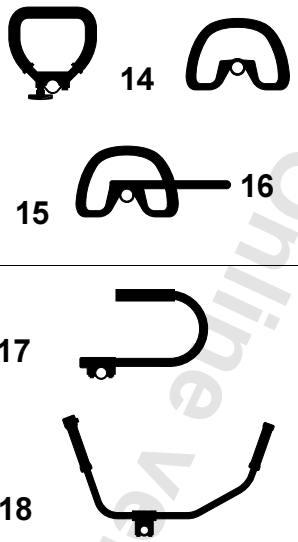
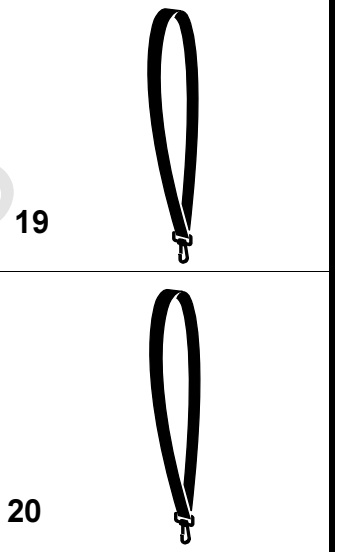
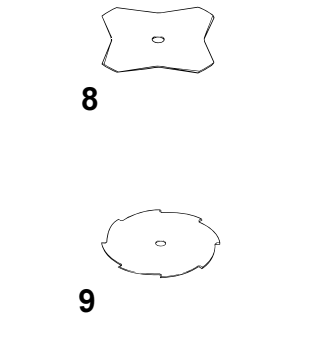
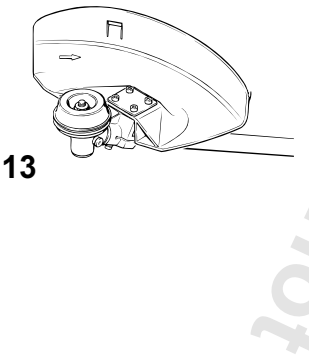
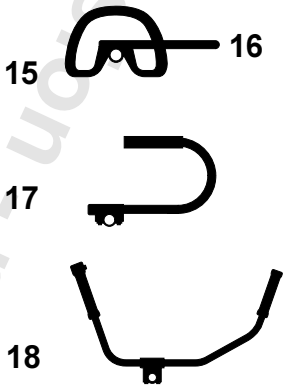
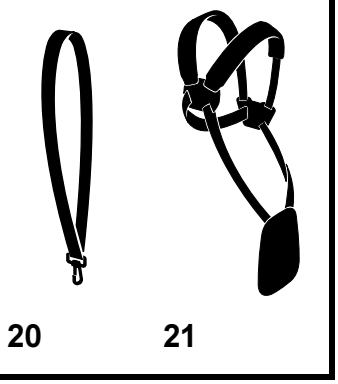
Other combinations, e.g. reading the table diagonally, **are not permitted since there is otherwise a risk of serious injury.**

Warning!

STIHL brushcutters with a loop handle **without standoff lever** may be used only with the above-mentioned mowing heads with nylon line or plastic blades.

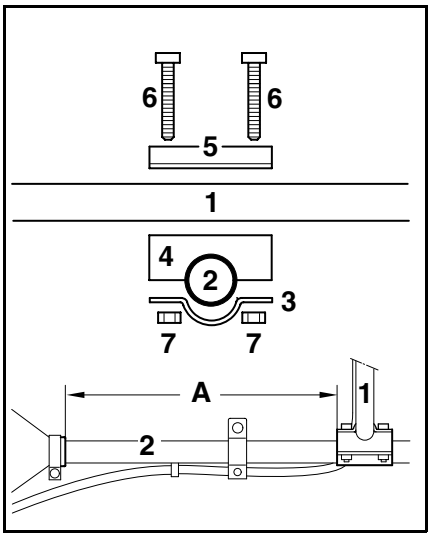
Other plastic or metal cutting tools may only be used on brushcutters with a bike handle, "J"-handle or loop handle **with standoff lever** in order to minimize the risk of personal injury through contact with the cutting tool.

Fixing Version - not for reprint

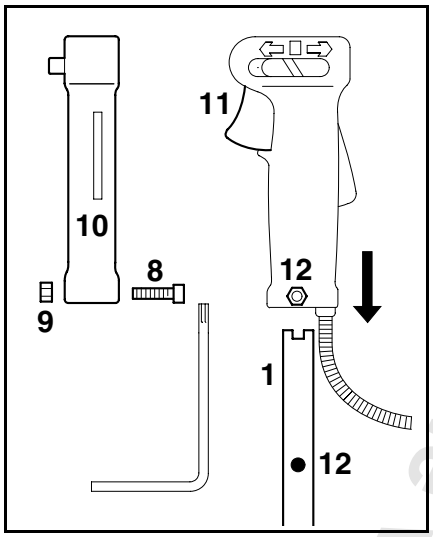
Cutting Tool	Deflector	Handle	Carrying Strap
			
			

Online version, not for reprint

Mounting the Bike Handle

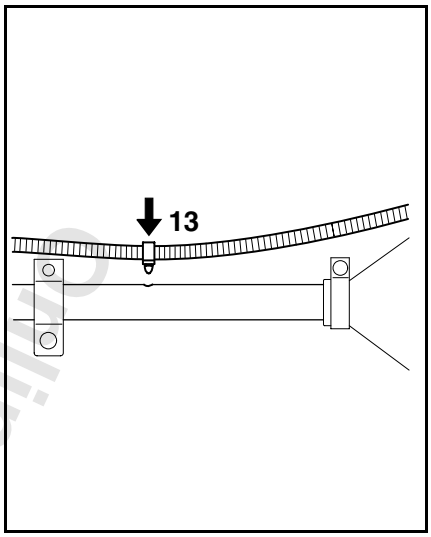


- Mount the bike handle **(1)** on the drive tube **(2)** - 30cm/12" **(A)** forward of the engine.
- Position the clamp **(3)** and support **(4)** on the drive tube.
- Place the bike handle **(1)** in the support so that the molded handle is on the left (looking at handle from engine).
- Fit clamp **(5)** on support.
- Insert screws **(6)** in holes.
- Fit nuts **(7)** on screws - fingertight.
- Line up the bike handle as required.
- Tighten the screws firmly.



Mounting the control handle

- Remove the screw **(8)** from the nut **(9)**.
- Take both parts out of the control handle **(13)**.
- Push the control handle onto the bike handle **(1)** - throttle trigger **(11)** must point in direction of gear head.
- Line up the holes **(12)**.
- Fit nut and screw in the control handle.
- Tighten the screw firmly.

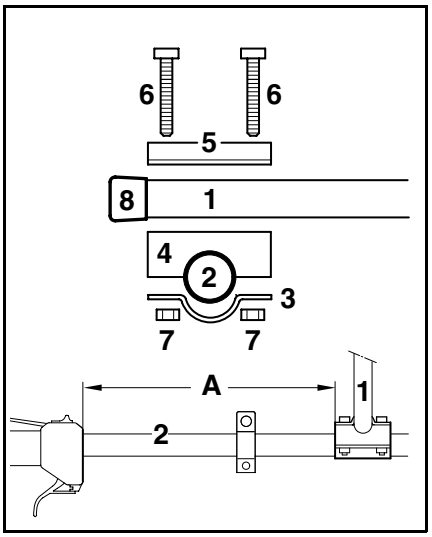


Securing the throttle cable

- Lay your brushcutter on its back with the gear gear facing up.
- Push the throttle cable retainers **(13)** into the holes on the underside of the drive tube.

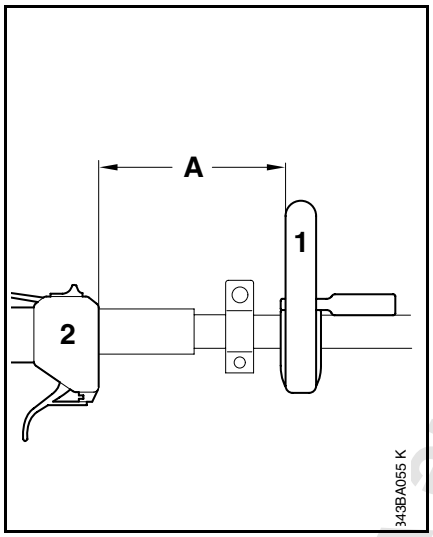
Online Version - not for reprint

Mounting the "J" Handle

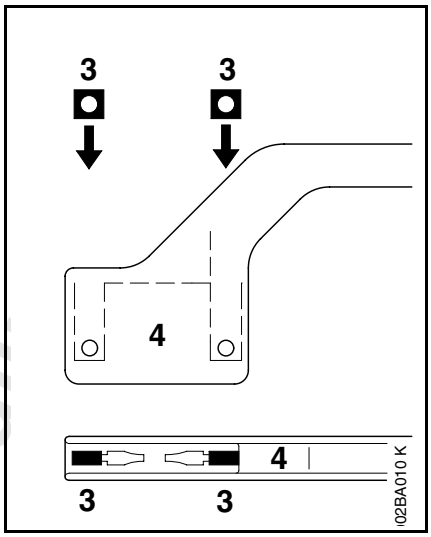


- Mount the "J" handle **(1)** on the drive tube **(2)** - 20cm/8" **(A)** forward of the throttle trigger block.
- Position the clamp **(3)** and support **(4)** on the drive tube.
- Place "J" handle **(1)** in the support - handle must point to left (looking at handle from engine).
- Place clamp **(5)** on support -
- Insert screws **(6)** through the parts and fit the nuts - fingertight.
- Locate the plug **(8)** against the support **(4)**.
- Line up the "J" handle as required.
- Tighten the screws firmly.

Mounting Loop Handle with Standoff Lever



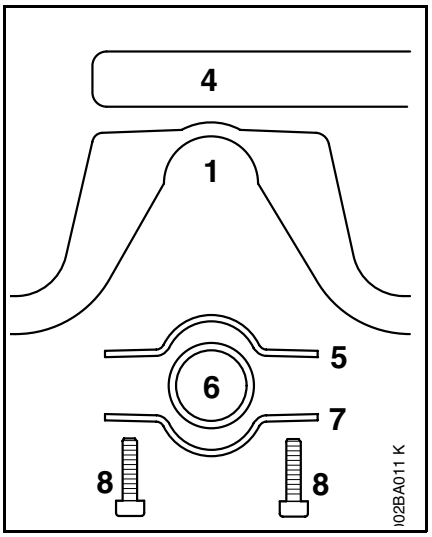
- **Mount the loop handle (1)** with standoff lever 20 cm/8" **(A)** forward of the control handle **(2)**.



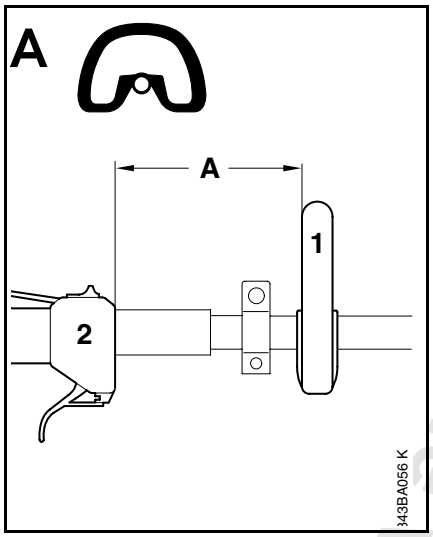
- Insert square nuts **(3)** in the standoff lever **(4)** - line up the holes.

new version - not for reprint

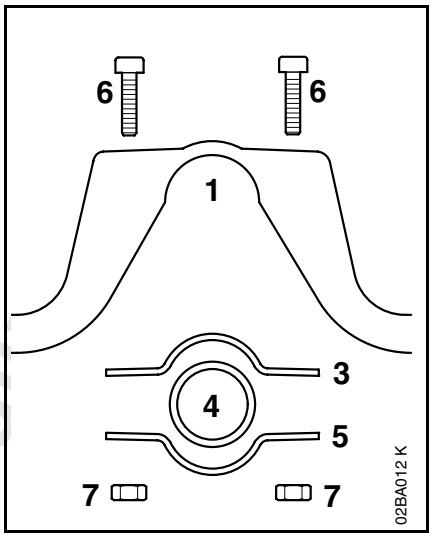
Mounting the Loop Handle
Version A



- Place the clamp **(5)** in the loop handle **(1)** and position them both against the drive tube **(6)**.
- Fit the clamp **(7)** and place standoff lever **(4)** in position - line up the holes.
- Insert screws **(8)** in holes and screw them into standoff lever fingertight.
- Align the loop handle.
- Tighten the screws firmly.



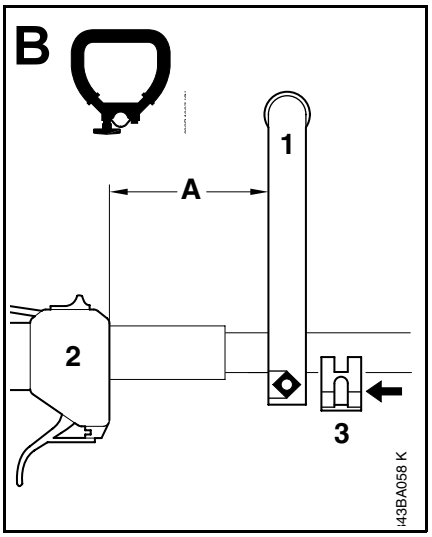
- Mount the loop handle **(1)** 20 cm/8" **(A)** forward of the control handle **(2)**.

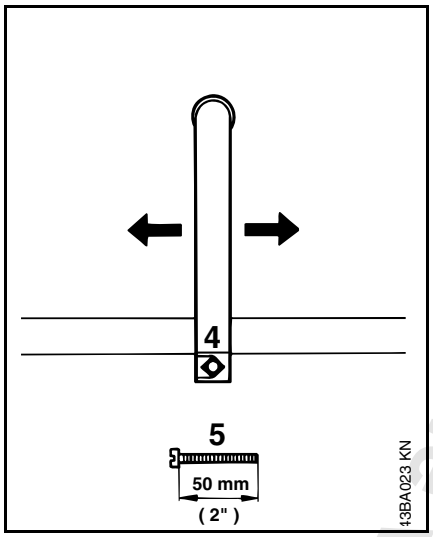


- Place the clamp **(3)** in the loop handle **(1)** and position them both against the drive tube **(4)**.
- Fit the clamp **(5)** - line up the holes.
- Insert screws **(6)** in holes and screw on the nuts **(7)** fingertight.
- Align the loop handle.
- Lock the nuts and tighten the screws firmly.

Preview version - not for reprint

Mounting the Loop Handle
Version B





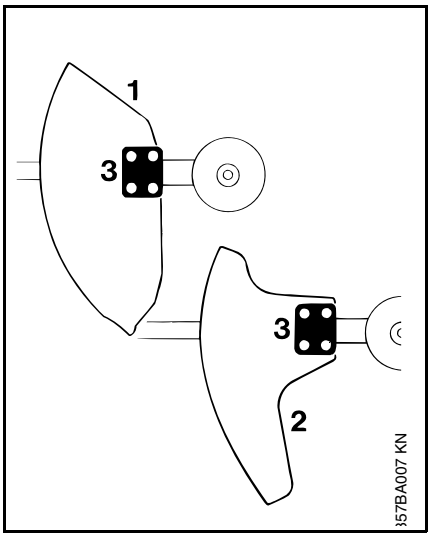
- Mount the loop handle **(1)** on the drive tube - 15cm/6" **(A)** forward of the control handle **(2)**.
- Position clamp **(3)** against the drive tube and slide it into the loop handle.
- Fit square nut **(4)** in the loop handle.
- Insert the clamp screw **(5)** from the other side and tighten down securely.

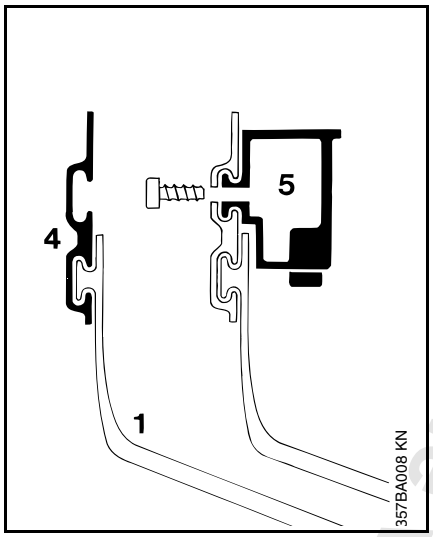
Adjusting loop handle to most comfortable position:

- Release clamp screw **(5)**.
- Move the loop handle along the drive tube as required and then tighten the clamp screw.

Online Version - not for reprint

Mounting the Deflector





Mounting the deflector

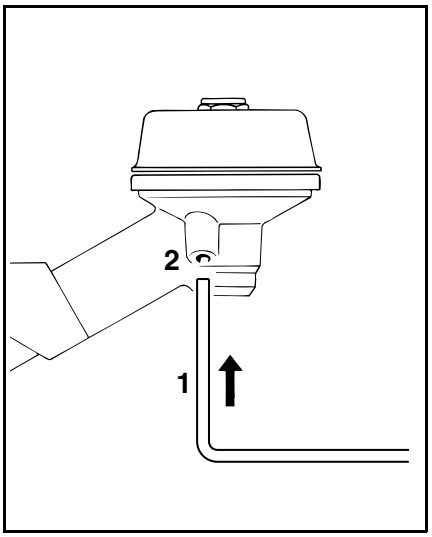
- Place either deflector **(1)** for all cutting tools
  or
  deflector **(2)** for mowing heads on the gearhead flange.
- Fit the plate **(3)** and line it up.
- Insert M 5 x 18 screws and tighten down securely.

Fitting skirt and blade

- Slide the **lower** guide slot of the skirt **(4)** over the deflector **(1)** - it must snap into position.
- Push blade **(5)** into the **upper** guide on the skirt and line it up with the first hole.
- Fit the screw and tighten it down firmly.

Online Version - not for reprint

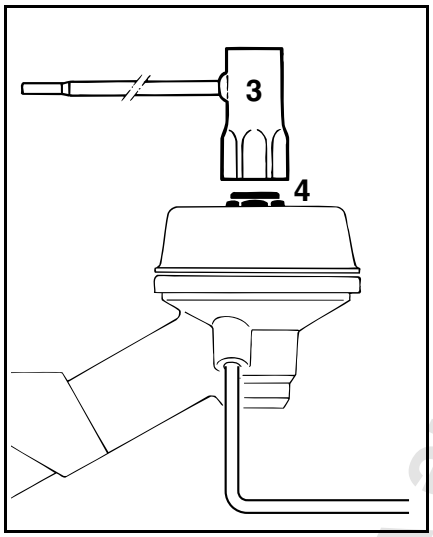
Mounting the Cutting Tools



Lay your brushcutter on its back with the gear head facing up.

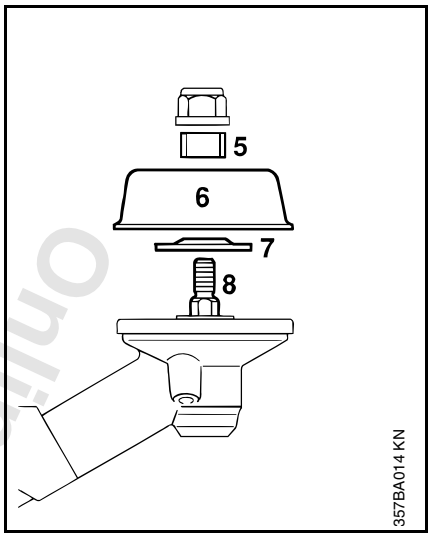
Blocking the output shaft

- Insert stop pin **(1)** in the bore **(2)** at the side of the gear head as far as stop - apply slight pressure.
- Rotate output shaft until the stop pin slips into position and blocks the shaft.



Removing cutting tool mounting hardware

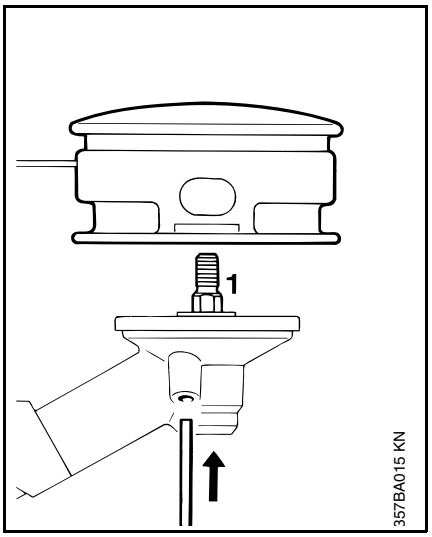
- Position combination wrench **(3)** on the mounting nut **(4)**.
- Release and unscrew the nut clockwise (left-hand thread).



- Remove shipping keeper **(5)** - if fitted.
- Pull the rider plate **(6)** and thrust washer **(7)** off the shaft **(8)**.

- Now fit the cutting tool.

Online Version - not for reprint



STIHL Supercut 20-2

- Lay your brushcutter on its back with the gear head facing up.
- Screw mowing head counterclockwise onto the output shaft **(1)** - as far as it will go.
- Block the output shaft.
- Tighten down the mowing head securely.
  Important!
  Remove the stop pin.

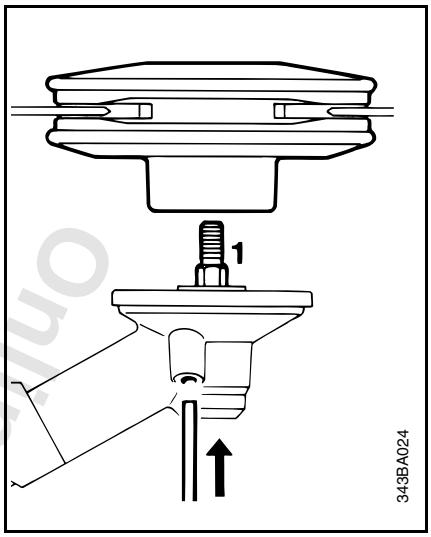
Keep instruction sheet for mowing head in a safe place.

Removing mowing head

- Block the output shaft -
- unscrew mowing head clockwise.

Adjusting nylon line

- Fresh line is advanced automatically, providing at least **6cm/2.4"** of line is still projecting from the head.
  Blade on deflector trims surplus line to correct length.
- Fit new nylon line as described in instructions supplied with mowing head.

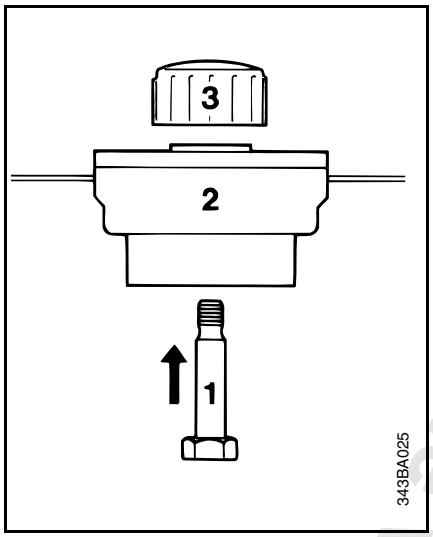


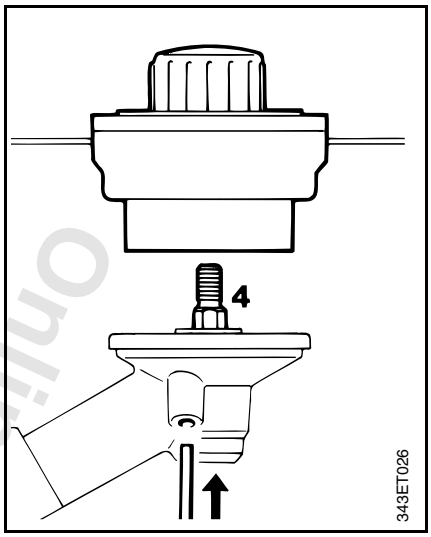
STIHL Polycut 20-3

- Lay your brushcutter on its back with the gear head facing up.
- Screw mowing head counterclockwise onto the output shaft **(1)** - as far as it will go.
- Block the output shaft.
- Tighten down the mowing head securely.
  Important!
  Remove the stop pin.

Keep instruction sheet for mowing head in a safe place.

Online version - not for reprint





Removing mowing head

- Block the output shaft - unscrew mowing head clockwise.

Replacing cutting blades

- Refer to instruction sheet supplied with mowing head.

STIHL Autocut 20-2
STIHL Autocut 25-2

Assembling STIHL Autocut 20-2

- Push the bolt **(1)** into the mowing head **(2)** and engage it in the hexagon recess.
- Screw the cap **(3)** counterclockwise on to the bolt and tighten it down securely.

Keep instruction sheet for mowing head in a safe place.

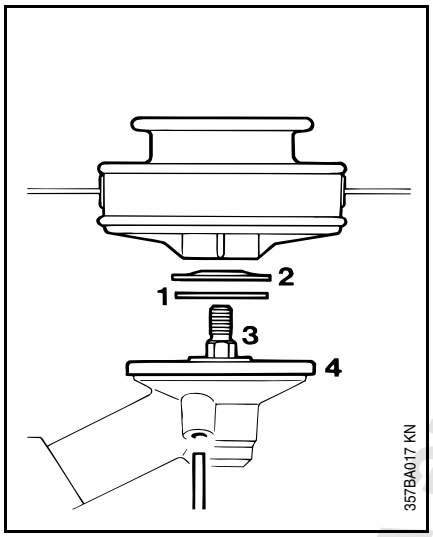
Mounting the mowing head

- Lay your brushcutter on its back with the gear head facing up.
- Screw mowing head counterclockwise onto the output shaft **(4)** - as far as it will go.
- Block the output shaft.
- Tighten down the mowing head securely.
  Important!
  Remove the stop pin.

Removing mowing head

- Block the output shaft - unscrew mowing head clockwise.

Online Version - not for reprint



Adjusting nylon line

- Hold the rotating mowing head horizontal above the ground - tap it on the ground - **about 3cm/1 1/4"** fresh line is advanced - blade on deflector trims surplus line to the correct length - avoid tapping head more than once.
- Line feed operates only if both lines still have a **minimum length of 2.5cm/1"**.
- Fit new nylon line as described in instructions supplied with mowing head.

STIHL Polymatic 30-2
STIHL Autocut 24-2

- Lay your brushcutter on its back with the gear head facing up.
- Slip the plain washer **(1)** and thrust washer **(2)** over the shaft **(3)** and against the thrust plate **(4)**.
- Screw mowing head counterclockwise onto the output shaft - as far as it will go.
- Block the output shaft.
- Tighten down the mowing head securely.
  Important!
  Remove the stop pin.

Keep instruction sheet for mowing head in a safe place.

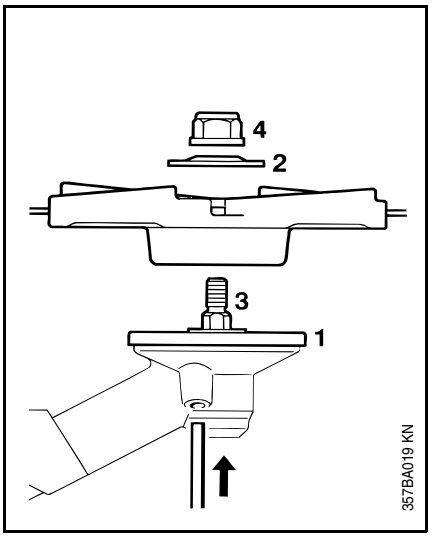
Removing mowing head

- Block the output shaft - unscrew mowing head clockwise.

Adjusting nylon line

- Refer to instruction sheet supplied with mowing head.

Online version, not for reprint



STIHL Fixed Line Head

- Lay your brushcutter on its back with the gear head facing up.
- Position the head on the thrust plate **(1)** .
- Slip the thrust washer **(2)** over the output shaft **(3)**.
- Block the output shaft.
- Screw mounting nut **(4)** counter-clockwise on to the output shaft and tighten it down firmly.
  Important!
  Remove the stop pin.

Keep instruction sheet for mowing head in a safe place.

Releasing mounting nut

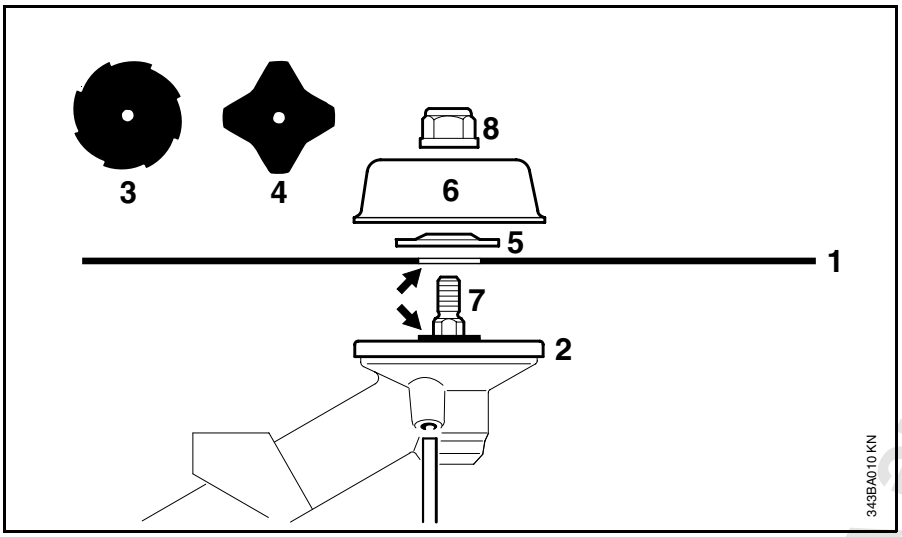
- Block the output shaft and unscrew the mounting nut clockwise.

If the mounting nut becomes slack due to frequent loosening and retightening, fit a new one.

Fitting nylon line

- Refer to instruction sheet supplied with fixed line head.

Online Version - not for reprint



Grass cutting blade 230

Note: Remove skirt and blade from deflector before mounting this cutting tool.

- Lay your brushcutter on its back with the gear head facing up.
- Place cutting tool **(1)** on the thrust plate **(2)**.
- Cutting edges of blade 230-8 **(3)** must point clockwise.
- Cutting blade 230-4 **(4)** may be fitted either way round.
- Slip the thrust washer **(5)** and rider plate **(6)** over the output shaft **(7)**.
- Block the output shaft.
- Screw mounting nut **(8)** counter-clockwise on to output shaft and tighten down securely.
  Important!
  Remove the stop pin.

Releasing mounting nut

- Block the output shaft and unscrew the mounting nut clockwise.

If the mounting nut becomes slack due to frequent loosening and retightening, fit a new one.

This engine is certified to operate on unleaded gasoline and with the mix ratio 50:1.

Your two-stroke engine requires a mixture of brand-name gasoline and quality two-stroke engine oil with the classification TC.

Use regular branded unleaded gasoline with a minimum octane rating of 90 RON (U.S.A./Canada: pump octane min. 89!). If the octane number of the regular grade gasoline in your area is lower use premium unleaded fuel. Fuel with a lower octane rating may result in preignition (causing "pinging") which is accompanied by an increase in engine temperature. This, in turn,

Online version - not for reprint

increases the risk of the piston seizure and damage to the engine.

The chemical composition of the fuel is also important. Some fuel additives not only detrimentally affect elastomers (carburetor diaphragms, oil seals, fuel lines etc.), but magnesium castings as well. This could cause running problems or even damage the engine. For this reason it is essential that you use only name branded fuels!

Use only STIHL two-stroke engine oil or equivalent branded two-stroke air-cooled engine oils with the classification TC for mixing.

We recommend STIHL 50:1 two-stroke engine oil since it is specially formulated for use in STIHL engines.

Do not use BIA or TCW (two-stroke water cooled) mix oils!

Take care when handling gasoline. Avoid direct contact with the skin and avoid inhaling fuel vapour.

The canister should be kept tightly closed in order to avoid any moisture getting into the mixture.

The fuel tank and the canister in which fuel mix is stored should be cleaned from time to time.

Fuel mix ages:

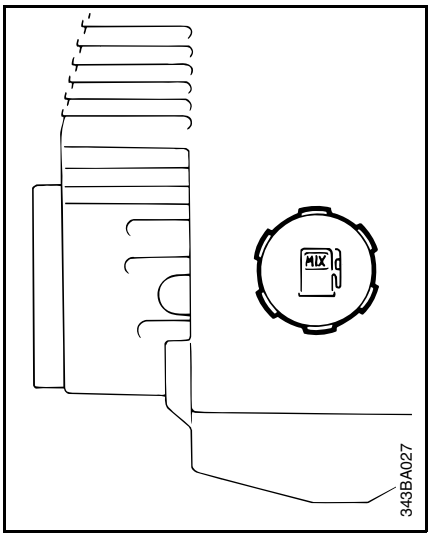
Only mix sufficient fuel for a few days work, not to exceed 3 months of storage. Store in approved safety fuel-canisters only. When mixing, pour oil into the canister first, and then add gasoline.

Gaso-line	Oil (STIHL 50:1 or equivalent branded TC oils)
US gal.	US fl.oz
1	2.6
2 1/2	6.4
5	12.8

Dispose empty mixing-oil canisters only at authorized disposal locations.

Online Version - not for reprint

Fueling



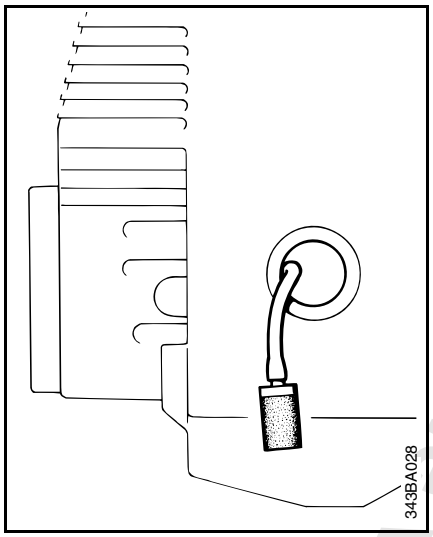
Before fueling, clean the filler cap and the area around it to ensure that no dirt falls into the tank.

Always thoroughly shake the mixture in the canister before fueling your machine.

Warning!
In order to reduce the risk of burns or other personal injury from escaping gas vapor and fumes, remove the fuel filler cap carefully so as to allow any pressure build-up in the tank to release slowly.

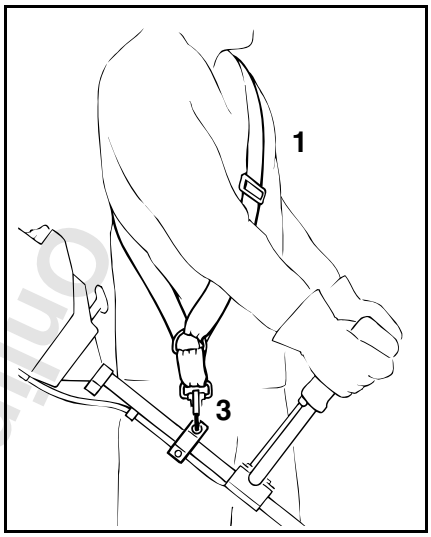
Warning!
After fueling, tighten fuel cap as securely as possible by hand.

Change the fuel pick up body every year.



Before storing your machine for a long period, drain and clean the fuel tank and run engine until carburetor is dry.

Fitting the Harness*



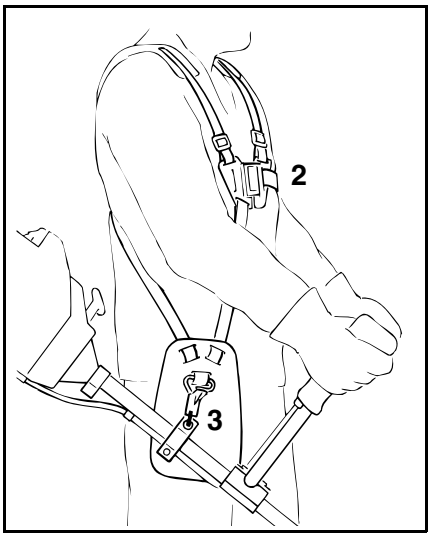
Models with a loop handle come without a harness (available as special accessory for these models).

Shoulder strap

- Put on the shoulder strap **(1)**.
- Adjust length until the spring hook **(3)** rests against your right hip.

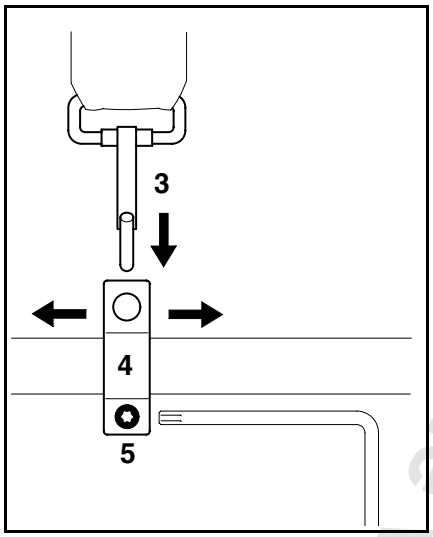
* Special accessory

Online Version - not for reprint



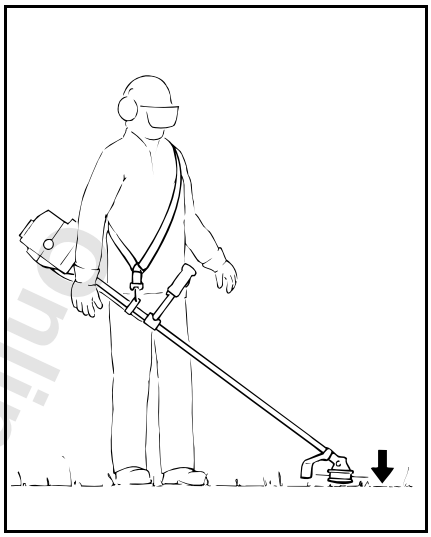
Full harness

- Put on the full harness **(2)**.
- Adjust length until the spring hook **(3)** rests against your right hip.



Balancing the brushcutter

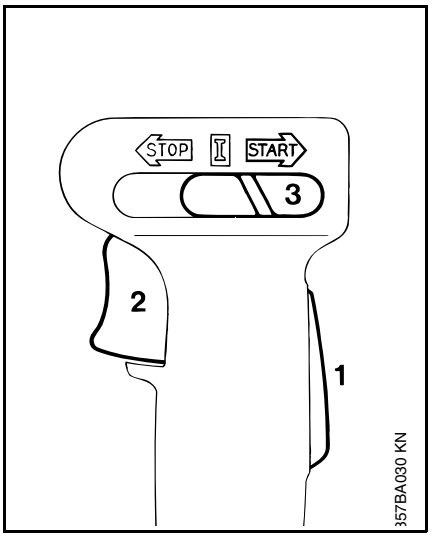
- Attach the spring hook **(2)** to the clamp **(3)** on the drive shaft. slacken the screw **(4)**.
- Slide the clamp up or down the drive shaft.
- Tighten the screw moderately.



- Let go of the brushcutter and check to see how it is balanced.
  In normal working position, cutting tool must just touch the ground.
- Tighten the screw firmly.

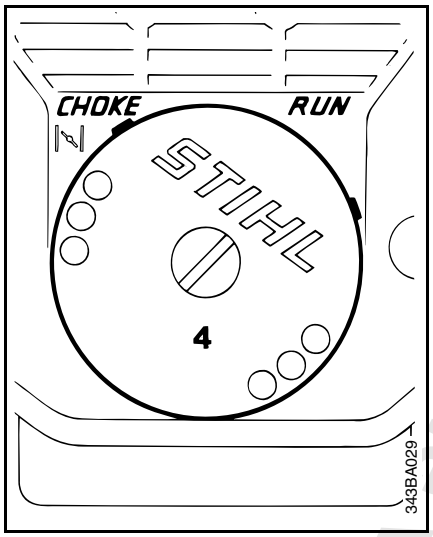
Online Version - not for reprint

Starting -
Version with Bike Handle



- Observe safety precautions - see chapter "Safety Precautions and Working Techniques".

- Hold down the throttle trigger interlock **(1)** and squeeze the throttle trigger **(2)**.
- Move the slide control **(3)** to **START** position.
- Now release the throttle trigger, slide control and trigger interlock in that order = This is the **starting-throttle position.**



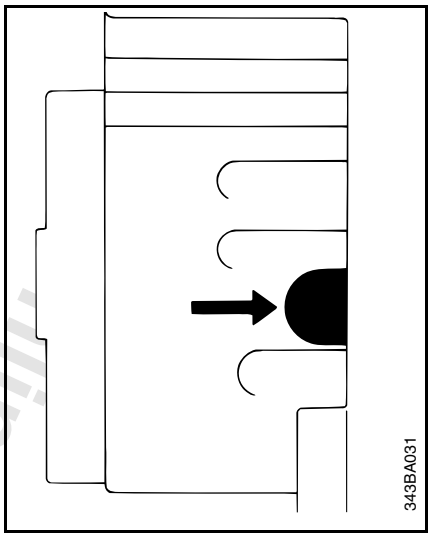
If **engine is cold**:

- Turn filter cover **(4)** clockwise to **CHOKE**.

If **engine is warm**:

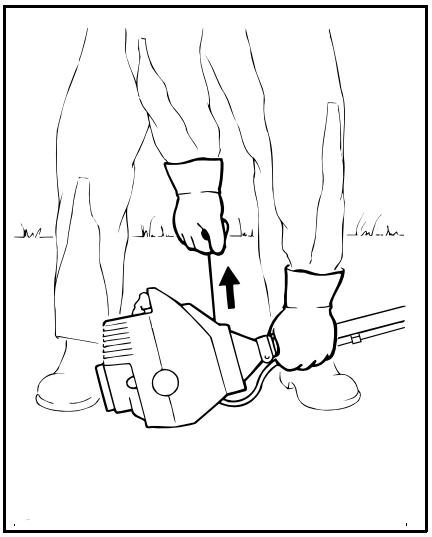
- Turn filter cover **(4)** counterclockwise to **RUN**.

Also use this setting if engine has been running but is still cold.



- Press transparent fuel pump bulb at least five times
  - it must be filled with fuel.

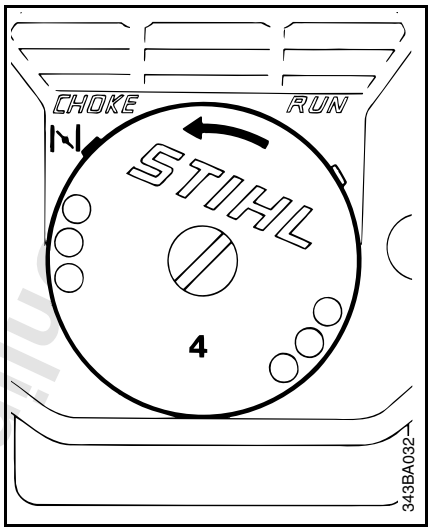
Online Version - not for reprint



- Put the unit on the ground:
  It must rest securely on the engine support and deflector. Check that the cutting tool is not touching the ground or any other obstacles.
- Make sure you have a firm footing: Hold the unit with you left hand and press it down **firmly** - your thumb should be under the drive shaft.
- Do not stand or kneel on the drive shaft!

- Pull the starter grip slowly with your right hand until you feel it engage - and then give it a brisk strong pull. Do not pull out starter rope more than 70cm (27") - it might break.

  Do not let the starter grip snap back - guide it slowly into the housing so that the starter rope can rewind properly.



When engine begins to fire:

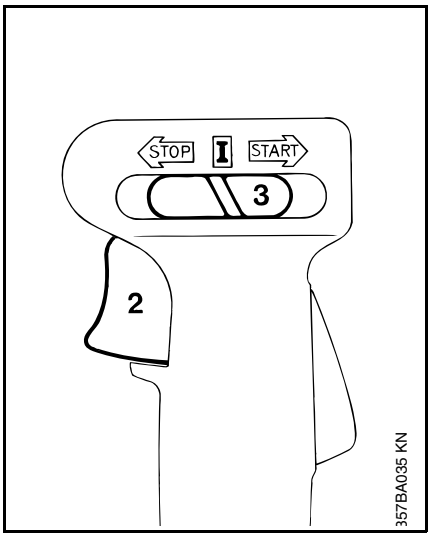
If **engine is cold:**

- Turn filter cover **(4)** counterclockwise until mark on filter cover points to |↘|
  continue cranking until engine runs.

If **engine is warm:**

- Continue cranking until engine runs.

Online Version - not for reprint

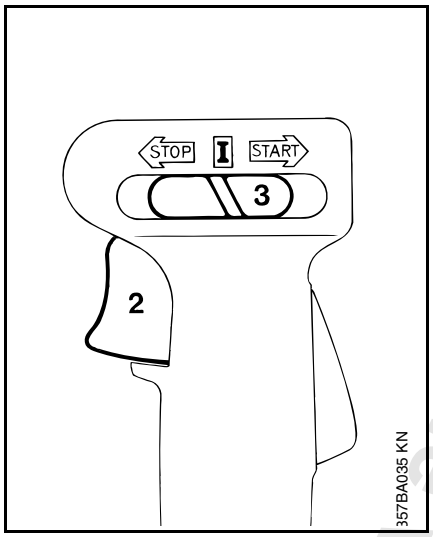


As soon as engine runs,

If **engine is cold:**

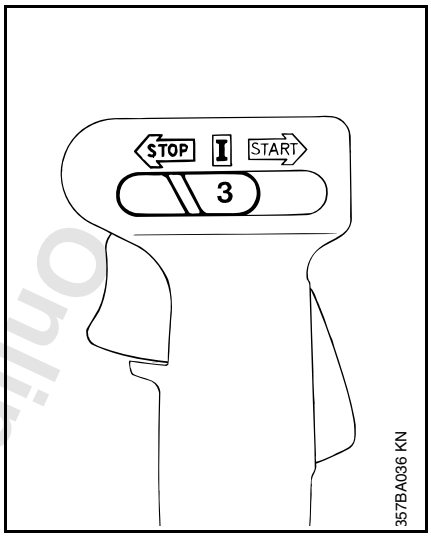
- Squeeze the throttle trigger **(2)** - warm up engine for brief period at full throttle.
- Release throttle trigger - slide control **(3)** moves to the "Run" position I and the engine returns to idling speed.

- Turn filter cover to **RUN**.



If **engine is warm:**

- Blip the throttle trigger **(2)** - the slide control **(3)** moves to the "Run" position I and the engine returns to idling speed.

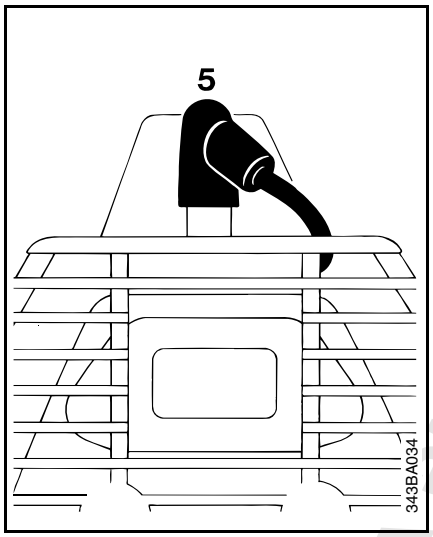


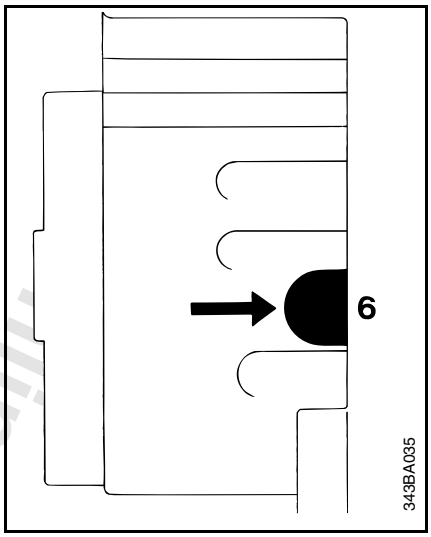
Make sure carburetor is correctly adjusted - cutting tool must not rotate when engine is idling.

Your brushcutter is ready for operation.

To shut down the engine:
Move slide control **(3)** to **STOP**.

Online Version - not for reprint





At very low outside temperatures: Allow engine to warm up

As soon as engine runs:

- Warm up engine for about 1 minute at full throttle.
- Release throttle trigger - slide control moves to the "Run" position I and the engine returns to idling speed.

- Turn filter cover to **RUN**.

If the engine doesn't start:

- If you did not turn the filter cover to **RUN** quickly enough after the engine began to fire, the combustion chamber is flooded.

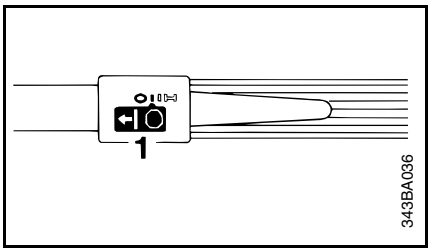
- Remove spark plug boot **(5)**.
- Unscrew and dry off the spark plug.
- Set slide control to **STOP**.
- Open the throttle fully.
- Pull the starter rope several times to clear the combustion chamber.
- Refit the spark plug and connect the spark plug boot.
- Set slide control to **START** .
- Turn filter cover to **RUN**, even if engine is cold.
- Now start the engine.

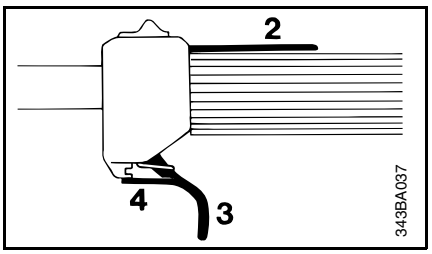
Fuel tank run until dry and then refueled

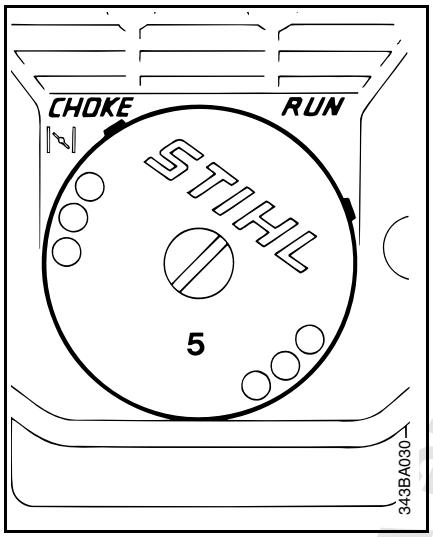
- Press transparent fuel pump bulb **(6)** several times - it must be filled with fuel.
- Now start the engine.

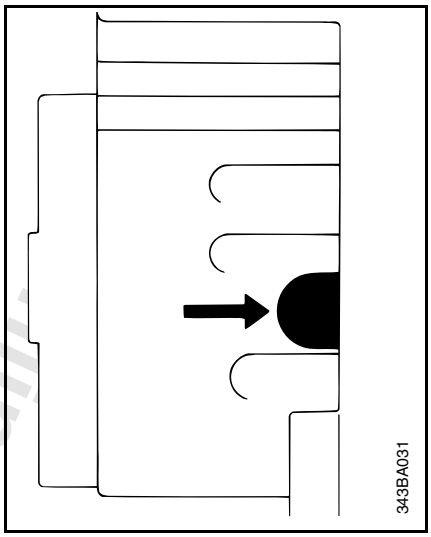
Online Version - Not for reprint

Starting - Stop Switch on Throttle Trigger Housing









- Observe safety precautions - see chapter "Safety Precautions".
- Move stop switch **(1)** to I
- Hold down the interlock lever **(2)**, squeeze the throttle trigger **(3)** and engage the spring lock **(4)** in the notch (see arrow) on the throttle trigger retainer.
- Let go of the throttle trigger, spring lock and interlock lever in that order. The trigger is now in the **starting throttle position**.

If **engine is cold**:

- Turn the filter cover **(5)** clockwise to **CHOKE** .

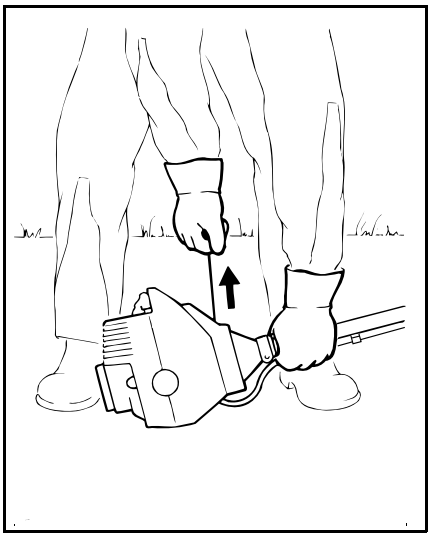
If **engine is warm**:

- Turn filter cover **(5)** counterclockwise to **RUN** .

Also use this setting if engine has been running but is still cold.

- Press transparent fuel pump bulb at least five times - it must be filled with fuel.

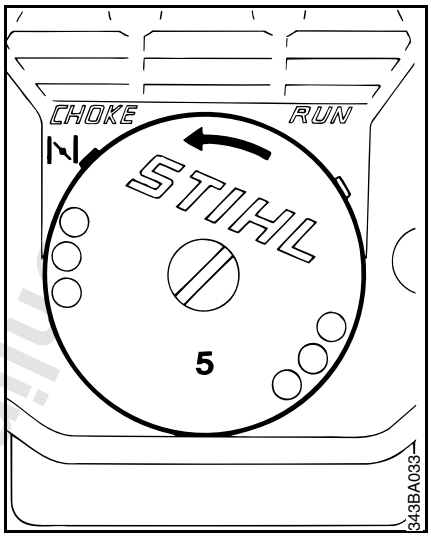
Preliminary version - not for reprint



- Put the unit on the ground:
  It must rest securely on the engine support and deflector. Check that the cutting tool is not touching the ground or any other obstacles.
- Make sure you have a firm footing: Hold the unit with you left hand around the handle hose (thumb under the handle) and press it down **firmly**.
- Do not stand or kneel on the drive shaft!

- Pull the starter grip slowly with your right hand until you feel it engage - and then give it a brisk strong pull. Do not pull out starter rope more than 70cm (27") - it might break.

  Do not let the starter grip snap back - guide it slowly into the housing so that the starter rope can rewind properly.



When engine begins to fire:

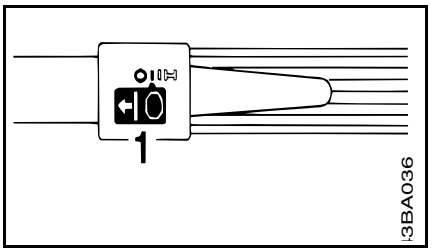
If **engine is cold:**

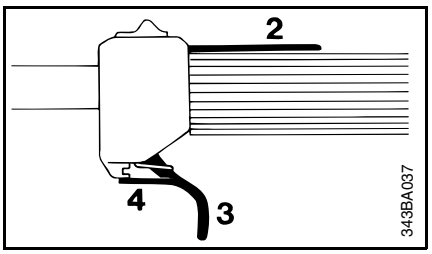
- Turn filter cover **(5)** counter-clockwise to |↖|
  and continue cranking until the engine runs.

If **engine is warm:**

- Continue cranking until the engine runs.

Online Version - not for reprint





As soon as engine runs:

If **engine is cold:**

- Hold down interlock lever **(2)** and warm up engine for brief period at full throttle.
- Release the throttle trigger **(3)** and turn filter cover to **RUN** so that engine returns to idle speed.

If **engine is warm:**

- Hold down interlock lever **(2)** and blip the throttle trigger **(3)** to disengage the spring lock **(4)** so that the engine can return to idle speed.

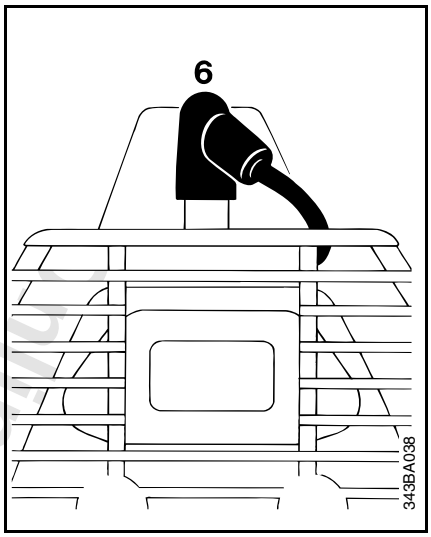
To shut down the engine:
Move stop switch **(1)** to the ▯position.

Make sure carburetor is correctly adjusted - cutting tool must not rotate when engine is idling.

At very low outside temperatures: Allow engine to warm up

As soon as engine runs:

- Hold down interlock lever - warm up the engine by running it for about 1 minute at full throttle - release the throttle trigger.
- Turn the filter cover to **RUN** so that engine returns to idle speed.



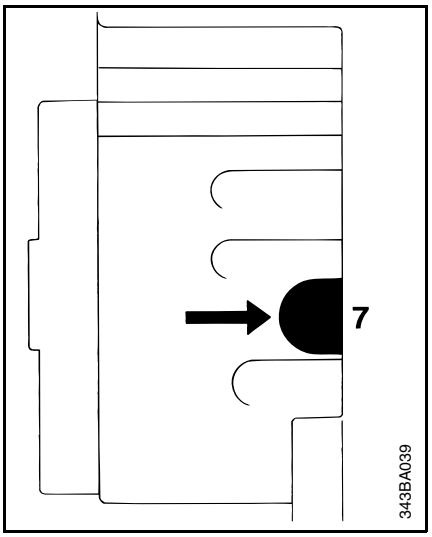
If the engine doesn't start:

- If you did not turn the filter cover to **RUN** quickly enough after the engine began to fire, the combustion chamber is flooded.

- Remove spark plug boot **(6)**.
- Unscrew and dry off the spark plug.
- Move stop switch to ▯position.
- Hold down interlock lever and open the throttle fully.
- Pull the starter rope several times to clear the combustion chamber.

Online version not for reprint

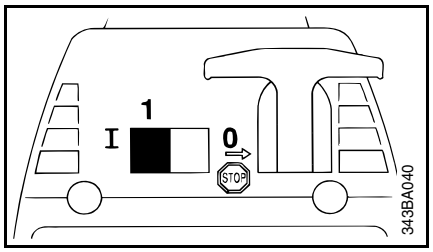
Starting - Stop Switch on Engine Housing

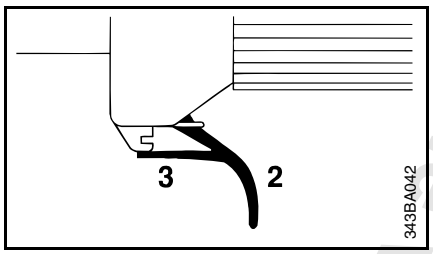


- Refit the spark plug and connect the spark plug boot.
- Move stop switch to I position.
- Turn filter cover to **RUN** - even if engine is cold.
- Now start the engine.

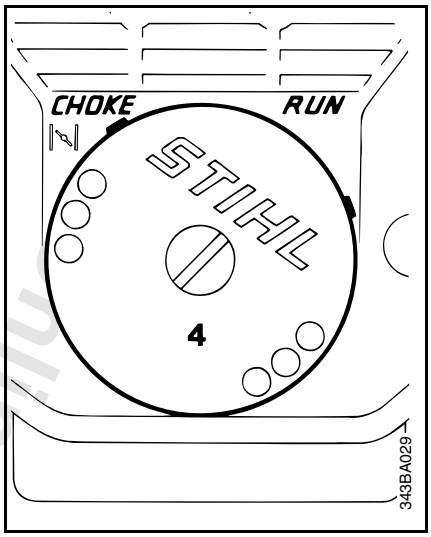
Fuel tank run until dry and then refueled

- Press transparent fuel pump bulb **(7)** several times - it must be filled with fuel.
- Now start the engine.





- Observe safety precautions - see chapter "Safety Precautions".
- Move stop switch **(1)** to I
- Squeeze the throttle trigger **(2)** and engage the spring lock **(3)** in the notch (see arrow) on the throttle trigger retainer.
- Let go of the throttle trigger and spring lock. The trigger is now in the **starting throttle position**.



If **engine is cold:**

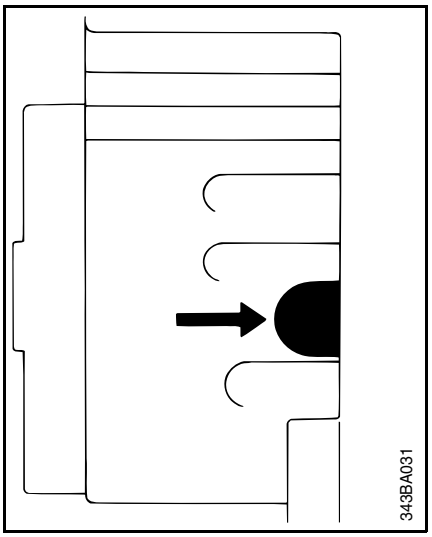
- Turn filter cover **(4)** clockwise to **CHOKE** .

If **engine is warm**:

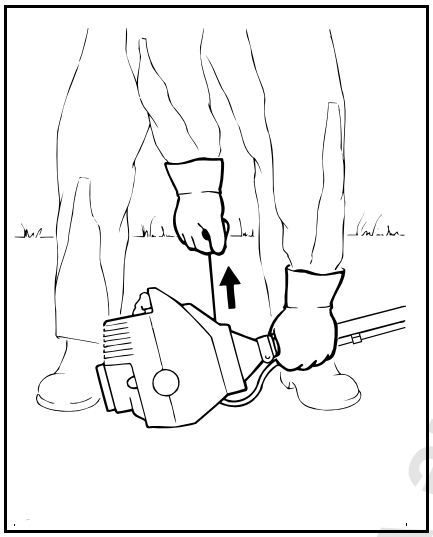
- Turn the filter cover **(4)** counter-clockwise to **RUN**.

Also use this setting if engine has been running but is still cold.

Online Version - not for reprint



- Press transparent fuel pump bulb at least five times - it must be filled with fuel.

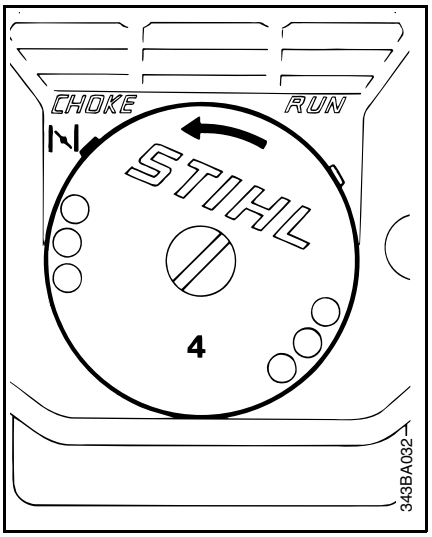


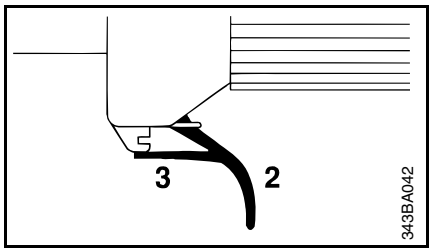
- Put the unit on the ground: It must rest securely on the engine support and deflector. Check that the cutting tool is not touching the ground or any other obstacles.
- Make sure you have a firm footing: Hold the unit with you left hand around the handle hose (thumb under the handle) and press it down **firmly**.
- Do not stand or kneel on the drive shaft!

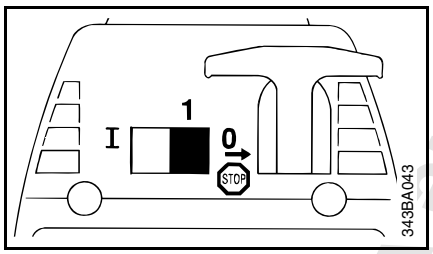
- Pull the starter grip slowly with your right hand until you feel it engage - and then give it a brisk strong pull. Do not pull out starter rope more than 70 cm (27") - it might break.

  Do not let the starter grip snap back - guide it slowly into the housing so that the starter rope can rewind properly.

Online version - not for reprint







When engine begins to fire:

If **engine is cold:**

- Turn filter cover **(4)** counter-clockwise to |↖|
  and continue cranking
  until the engine runs.

If **engine is warm:**

- Continue cranking until the engine runs.

As soon as engine runs:

If **engine is cold:**

- Warm up engine for brief period at full throttle.
- Release the throttle trigger.
- Turn the filter cover to **RUN** so that engine returns to idle speed.

If **engine is warm:**

- Blip the throttle trigger **(2)** to disengage the spring lock **(3)** so that the engine can return to idle speed.

To shut down the engine:
Move the stop switch **(1)** to **0**

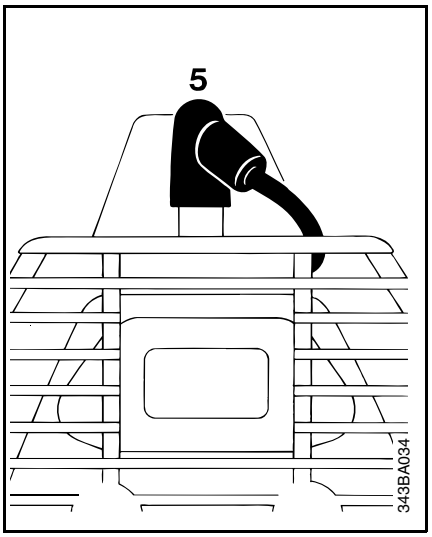
Make sure carburetor is correctly adjusted - cutting tool must not rotate when engine is idling.

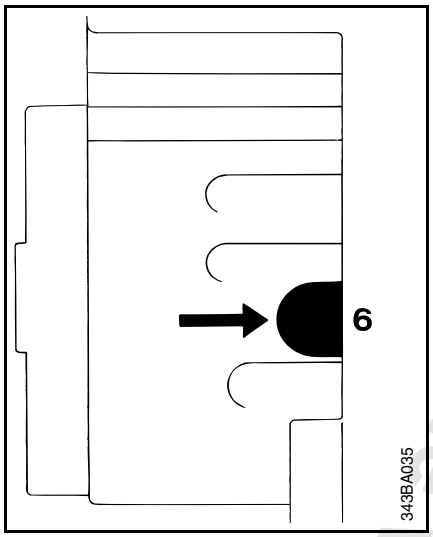
At very low outside temperatures:
Allow engine to warm up

As soon as engine runs:

- Warm up engine for about 1 minute at full throttle.
- Release throttle trigger - and turn filter cover to **RUN** so that engine returns to idle speed.

Online Version - not for reprint





If the engine doesn't start:

- If you did not turn the filter cover to **RUN** quickly enough after the engine began to fire, the combustion chamber is flooded.

- Remove spark plug boot **(5)**.
- Unscrew and dry off the spark plug.
- Move stop switch to **O** position.
- Open the throttle fully.
- Pull the starter rope several times to clear the combustion chamber.
- Refit the spark plug and connect the spark plug boot.
- Set stop switch to **I** position.
- Turn filter cover to **RUN** - even if engine is cold.
- Now start the engine.

Fuel tank run until dry and then refueled

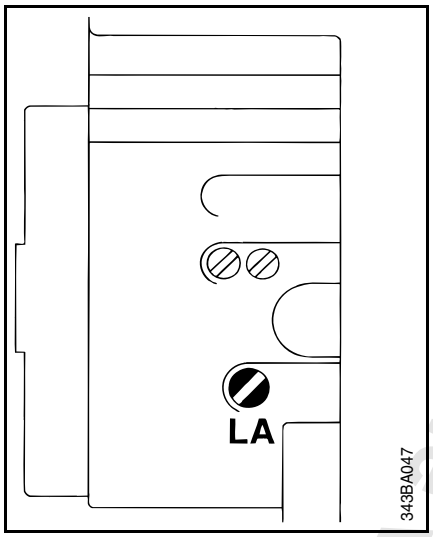
- Press transparent fuel pump bulb **(6)** several times - it must be filled with fuel.
- Now start the engine.

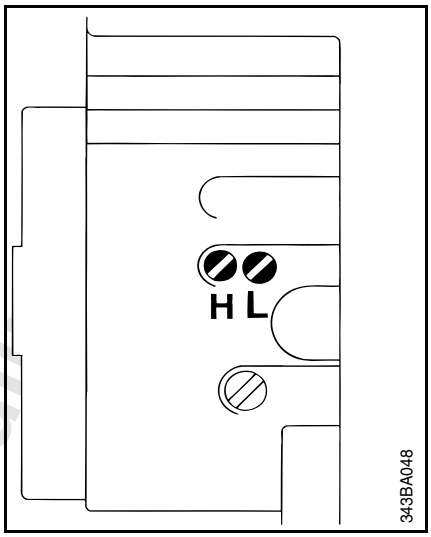
Motor Management

Exhaust emissions are controlled by the design of the fundamental engine parameters and components (e.g. carburetion, ignition, timing and valve or port timing) without the addition of any major hardware.

Online Version - Not for reprint

Adjusting Carburetor





Your carburetor is preset at the factory. This is the optimum setting under the barometric pressure and climatic conditions at the factory and is suitable for most operating sites.

It ensures that your machine will run smoothly, be fuel efficient, operate reliably and produce low emissions.

If the engine runs unsatisfactorily at high altitudes or at sea level:
Slight readjustment of the carburetor may be necessary:

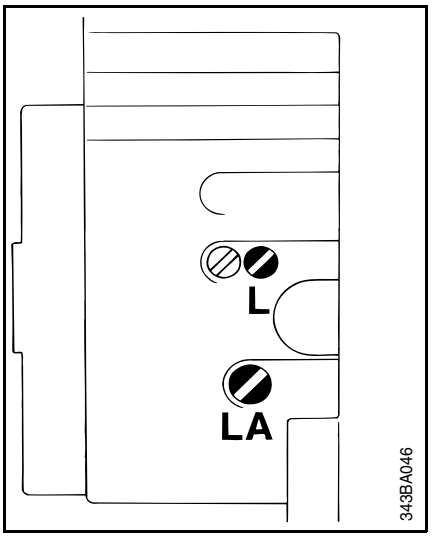
- Check the air filter and clean it if necessary.
- Check spark arresting screen (if fitted) and clean it if necessary.
- Mount the cutting tool.

  Nylon line mowing head:
  Trim lines to correct length:
  Lines must extend as far as line limiting blade on the deflector.
- Start the engine and adjust idling speed correctly with the idle speed adjusting screw **(LA)** - the cutting tool must not rotate.
- Warm up the engine.

  At high altitude:
  Turn the high speed adjusting screw **(H)** and low speed adjusting screw **(L)** clockwise (leaner) or as far as stop.

  At sea level:
  Turn the high speed adjusting screw **(H)** and low speed adjusting screw **(L)** counterclockwise (richer) or as far as stop.

Preview Version - Not for reprint

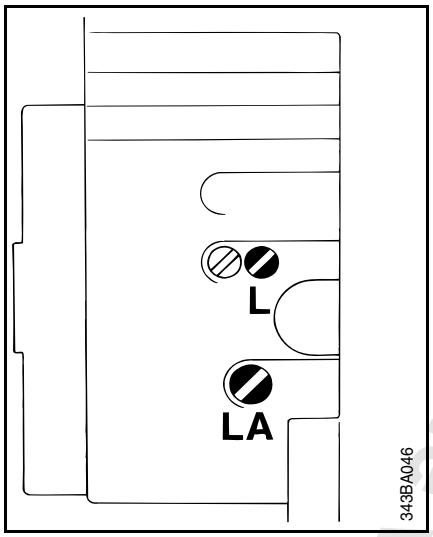


Adjusting idle speed

It is usually necessary to change the setting of the idle speed adjusting screw **(LA)** after every correction to the low speed adjusting screw **(L)**.

Engine stops while idling

Turn the idle speed adjusting screw **(LA)** clockwise until engine runs smoothly - cutting tool must not rotate.

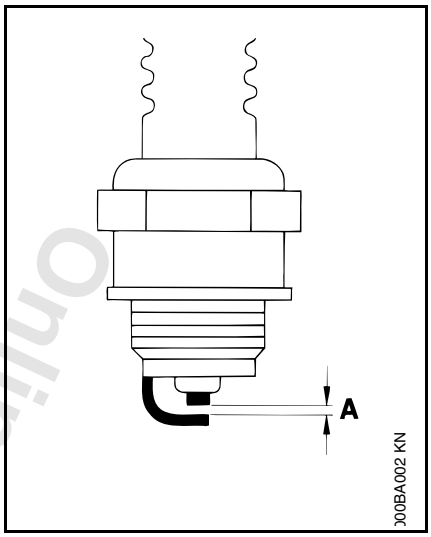


Cutting tool rotates when engine is idling

Turn the idle speed adjusting screw **(LA)** counterclockwise until cutting tool stops rotating - then back off screw about another one half turn from that position.

Erratic idling behavior, poor acceleration

Idle setting is too lean. Turn the low speed adjusting screw **(L)** counterclockwise until engine runs and accelerates smoothly.



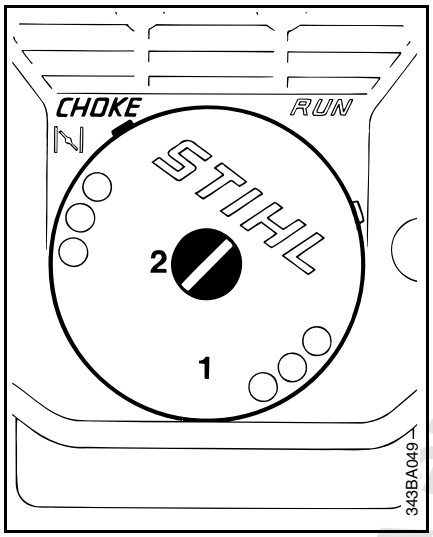
Wrong fuel mix (too much engine oil in the gasoline), a dirty air filter and unfavorable running conditions (mostly at part throttle etc.) affect the condition of the spark plug. These factors cause deposits to form on the insulator nose which may result in trouble in operation.

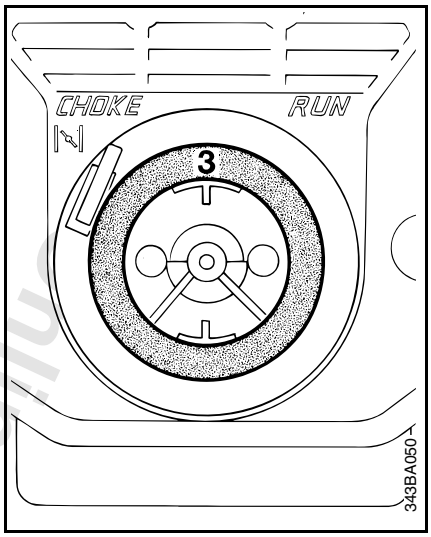
If engine is down on power, difficult to start or runs poorly at idling speed, first check the spark plug.

- Remove spark plug - see "If engine doesn't start:"
- Clean dirty spark plug.
- Check electrode gap **(A)** - it should be 0.7 - 0.8 mm (about 0.03") - readjust if necessary.

Online version - not for reprint

Cleaning Air Filter





- Use only suppressed spark plugs of the approved type.

Rectify faults which have caused fouling of spark plug:
Incorrect carburetor setting, too much oil in fuel mix, dirty air filter, unfavorable running conditions, e.g. operating at part load.

- **Fit a new spark plug after approx. 50 operating hours -**

  or earlier if the electrodes are badly eroded.

Dirty air filters reduce engine power, increase fuel consumption and make starting more difficult.

If there is a noticeable loss of engine power:

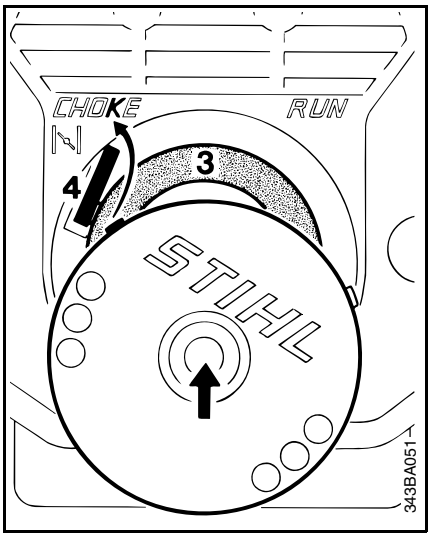
- Turn filter cover **(1)** to **CHOKE** -
  to prevent dirt falling into the carburetor.
- Take out the screw **(2)** and pull off the filter cover without turning it.

- Take the foam filter element **(3)** out of the filter housing.

- Wash the element in fresh, non-flammable cleaning solution (e.g. warm soapy water) and dry it off.

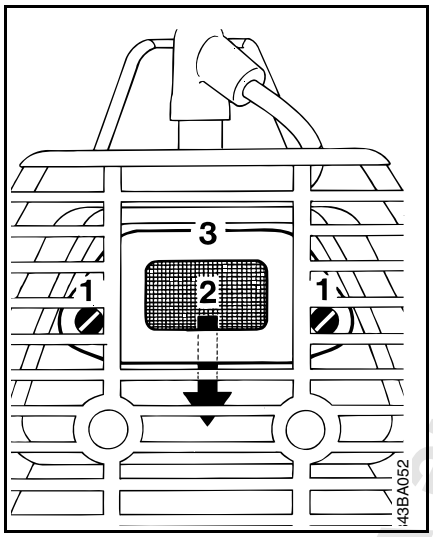
  Always replace a damaged filter element.

Online Version - not for reprint



- Install foam filter element **(3)**.
- Fit the filter cover with the choke lever **(4)** in the closed position - line up choke mark on filter cover with **K** of **CHOKE** on housing.
- Secure cover with screw **(2)**.

Spark Arresting Screen in Muffler*

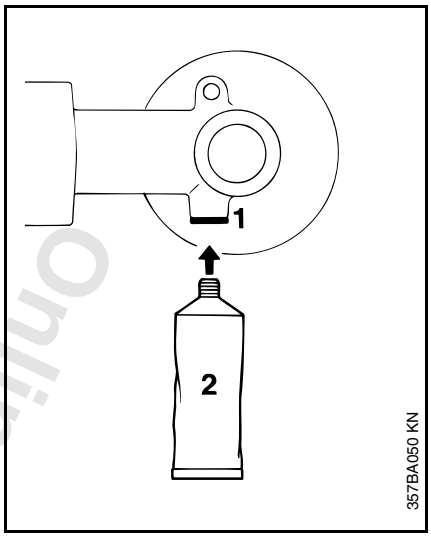


If the engine is low on power, check the spark arresting screen inside the muffler.

- Slacken off but do not remove the screws **(1).**
- Pull out the spark arresting screen **(2)** from underneath the cover **(3)** in the direction of the arrow (see illustration).
- Clean spark arresting screen if necessary.
- If screen is damaged or coked up, fit a new one.
- Refit the spark arresting screen.
- Assemble in the reverse sequence.

*Not all models

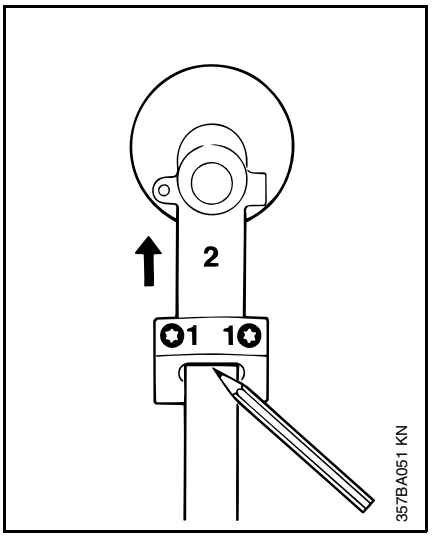
Gearbox Lubrication



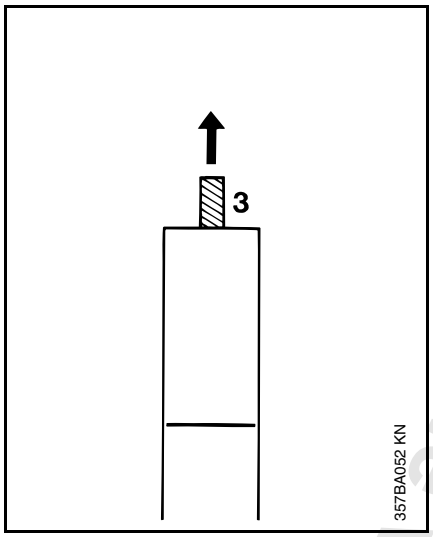
- Check grease level regularly - about every 50 hours of operation.
- Unscrew the filler plug **(1)**.
- If no grease can be seen on the inside of the filler plug, screw the tube **(2)** of STIHL gear lubricant 0781 120 1117/1119 into the filler hole.
- Squeeze grease into the gear housing - about 5 - 10 g (1/4 oz).
- Do not completely fill the gear housing with grease.
- Refit the filler plug and tighten it down firmly.

Online Version - not for reprint

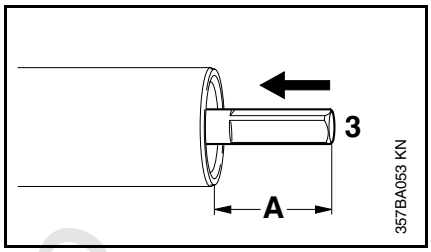
Lubricating Flexible Shaft

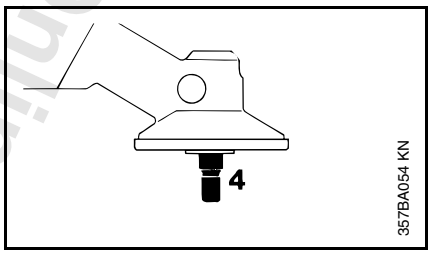


- Check film of lubricant at regular intervals -
  every 50 hours of operation if you use your brushcutter daily
  or once a year if you use your brushcutter occasionally.
- Mark the end of the gear head on the drive tube.
- Release the clamp screws **(1)**.
- Pull the gear head **(2)** off the drive tube.



- Pull the flexible shaft **(3)** out of the drive tube.
- Use STIHL gear grease 0781 120 1109/1110 to coat dry areas of the shaft:
  Do not apply too much grease - never pump grease into the drive tube.
- If shaft has turned blue, fit a new one.

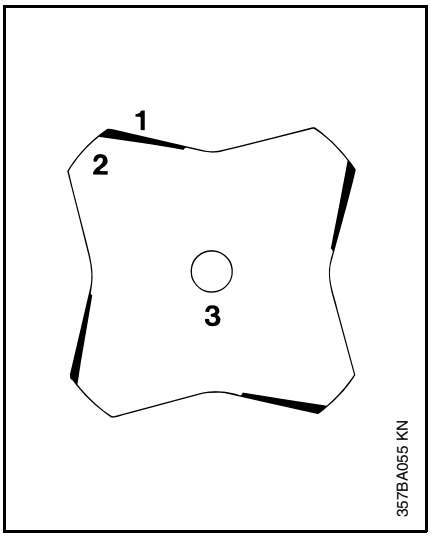




- Push shaft **(3)** into the drive tube - turn it to and fro until distance **A** is less than 10mm (3/8").
- Slide the drive tube into the gear head -
  turn drive shaft **(4)** back and forth until mark is reached.
- Line up the gear head.
- Tighten down the clamp screws.

Online Version - not for reprint

Sharpening Cutting Tools



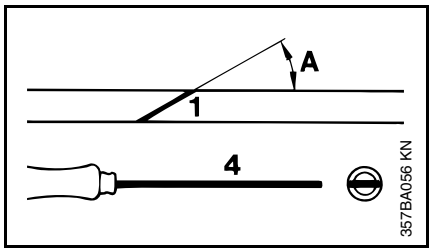
Grass cutting blade 230-4

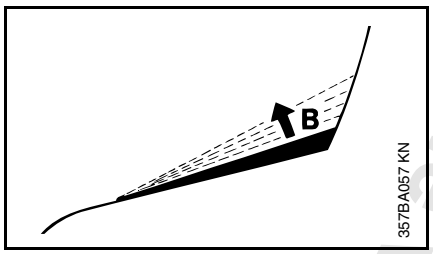
Never straighten or weld a bent or cracked grass cutting blade - it might shatter and cause serious or fatal injury.

- Resharpen only when all cutting edges **(1)** on both sides of the blade are dull: This ensures balanced wear.

To avoid out-of-balance:

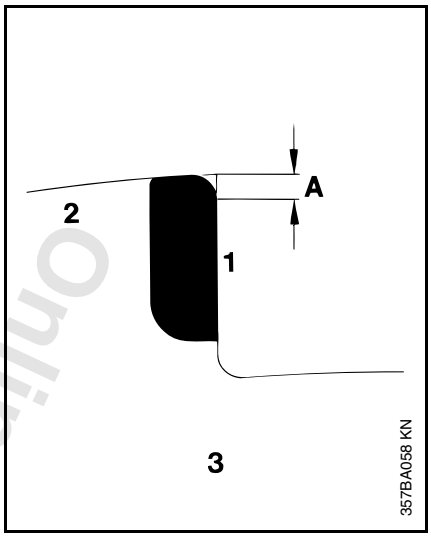
- Resharpen the cutters **(2)** uniformly - do not alter the contour of the parent blade **(3)** in any way.
- After resharpening about 5 times, have blade checked on STIHL balancer 5910 850 2600 and rebalanced as necessary.





Sharpen correctly

- If slightly dull:
  Use flat file **(4)** 0814 212 3310 -
  In case of more serious wear or nicks: Resharpen with a grinder - maintain a sharpening angle of 30° **(A)** on the cutting edge **(1)**.
- File back the cutting edge parallel to the lines **(B)** (see illustration).
- Resharpen frequently, take away as little material as possible - two or three strokes of the file are usually enough.



Grass cutting blade 230-8

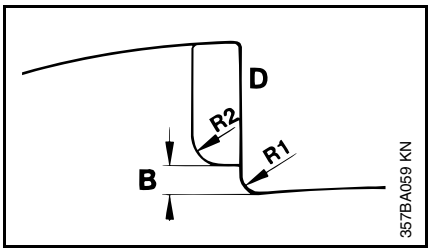
Never straighten or weld a bent or cracked grass cutting blade - it might shatter and cause serious or fatal injury.

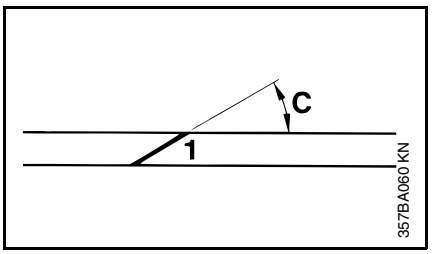
- Resharpen when the tips of the cutting edges **(1)** have worn down to about 1mm/3/64" **(A)**.

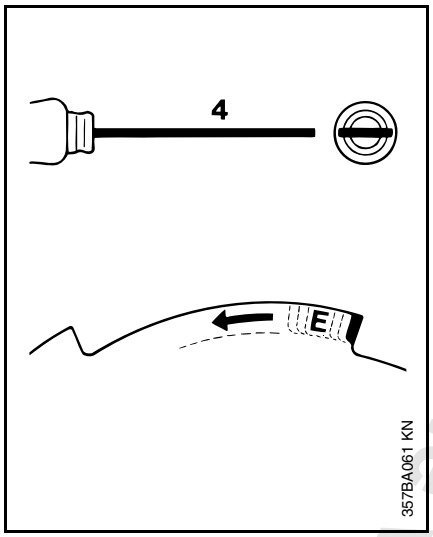
To avoid out-of-balance:

- Resharpen the cutters **(2)** uniformly - do not alter the contour of the parent blade **(3)** in any way.
- After resharpening about 5 times, have blade checked on STIHL balancer 5910 850 2600 and rebalanced as necessary.

Online Version not for reprint







Measurements and angles for resharpening

Leave clearance of 2mm/5/64" **(B)** between cutting edge and parent blade - **R1** should be 2mm/5/64". Radius **R2** is 2.5mm/7/64" and is obtained automatically if you use the specified file and maintain a filing angle of 30° **(C)**.
Cutting edge **(D)** must be exactly in line with center of blade's mounting hole.

Sharpen correctly

- If slightly dull:
  Use flat file **(4)** 0814 212 3310 -
  In case of more serious wear or nicks: Resharpen with a grinder.
- File back the cutting edge parallel to the lines **(E)** (see illustration).
- Resharpen frequently, take away as little material as possible - two or three strokes of the file are usually enough.

During break-in period

A factory new machine should not be run at high revs (full throttle off load) for the first three tank fillings. This avoids unnecessary high loads during the break-in period.

As all moving parts have to bed in during the break-in period, the frictional resistances in the engine are greater during this period.
The engine develops its maximum power after about 5 to 15 tank fillings.

During operation

After a long period of full-throttle operation, allow engine to run for a while

Online Version, not for reprint

at idle speed so that the heat in the engine can be dissipated by flow of cooling air. This protects engine-mounted components (ignition, carburetor) from thermal overload.

After finishing work

Storing for a short period:
Wait for engine to cool down. To avoid condensation, fill the fuell tank and keep the unit in a dry place until you need it again.

Storing for an long period:
see chapter "Storing the Machine".

For periods of about 3 months or longer:

- Drain and clean the fuel tank.
- Run engine until carburetor is dry - this helps prevent the carburetor diaphragms sticking together.
- Remove, clean and inspect the cutting tool.
- Thoroughly clean the machine - pay special attention to the cylinder fins and air filter.
- Store the machine in a dry, high or locked location - out of the reach of children and other unauthorized persons.

Online Version - not for reprint

Maintenance Chart

Please note that the following maintenance intervals apply for normal operating conditions. If your daily working time is longer than normal or cutting conditions are difficult, shorten the specified intervals accordingly.		before starting work	after finishing work or daily	after each refueling stop	weekly	monthly	if faulty	if damaged	as required	see page:
Complete machine	Visual inspection (condition, leaks)	x		x						
	Clean		x							
Throttle trigger, stop switch	Check operation	x		x						32-41
Air filter	Clean						x		x	45
	Replace							x		45
Filter in fuel tank	Check						x			30
	Replace							x	x	30
Fuel tank	Clean						x		x	29
Carburetor	Check idle adjustment - cutting tool must not turn	x		x						43-44
	Readjust idle								x	43-44
Spark plug	Readjust electrode gap						x			44
Cooling inlets	Inspect		x							
	Clean								x	
Spark arresting screen in muffler	Inspect		x				x			46
	Clean or replace							x	x	46
All accessible screws and nuts (not adjusting screws)	Retighten								x	
Cutting tool	Visual inspection	x		x						23-28
	Replace							x	x	23-28
	Sharpen metal cutting tools									48-49
	Check tightness of cutting tool	x		x						23-28
Flexible shaft	Inspect					x				47
	Lubricate								x	47

The user of the brushcutter may carry out only the maintenance operations described in this manual. Other repair work may be performed only by an authorized STIHL Service Shop.

Warranty claims following repairs can be accepted only if the repair has been performed by an authorized STIHL Service Shop using original STIHL spare parts.

Original STIHL parts can be identified by the STIHL part number, the □ logo and the STIHL parts symbol .
The symbol may appear alone on small parts.

Online version - not for reprint

Specifications

Engine

Single cylinder two-stroke engine

Displacement:	30.2 cm^3 (1.84 cu.in)
Bore:	34.8 mm (1.36 cu.in)
Stroke:	31.8 mm (1.25 in)
Engine power to ISO 8893:	0.7 kW (0.95 bhp)
Max. engine speed:	Speed limited by control valve
Max. output shaft speed (tool mounting):	7 500 r.p.m.
Idle speed:	3 100 r.p.m.

Ignition System

Type:
Electronic (breakerless) magneto ignition

Spark plug (suppressed):	GM AC CSR 45 or NGK BMR 6A; Heat range 200
Electrode gap:	0.7 - 0.8 mm (0.03 in)
Spark plug thread:	M 14 x 1.25; 9.5 mm (0.37 in) long

Fuel System

Carburetor:
All position diaphragm carburetor with integral fuel pump

Air filter:
Foam element

Fuel tank capacity:
0.51 l (1.08 US pt)

Fuel mixture:
see chapter "Fuel"

Weight
without cutting tool and deflector:

FS44 with bike handle	5.6 kg (12.3 lb)
FS44 with loop handle	5.1 kg (11.2 lb)

Model	Tool	Sound pressure level L_{peq} to ISO 7917 [1] dB (A)	Sound power level L_{weq} to ISO 10884 [1] dB (A)	Vibration acceleration to ISO 7916 Idle speed (m/s^2) Handle right	left	Vibration acceleration to ISO 7916 Max. speed (m/s^2) Handle right	left
FS 44 [2]	Mow. head	97	108	3.3	3.0	3.3	3.6
FS 44 [2]	Metal tool	94	103	3.3	3.0	4.2	3.7
FS 44 R [3]	Mow. head	97	108	4.1	5.2	13.2	9.5
FS 44 R [4]	Metal tool	94	103	4.1	5.2	10.1	9.6

[1] Average for idle speed and maximum engine speed with equal periods of exposure
[2] Version with bike handle
[3] Version with loop handle
[4] Version with loop handle with standoff lever

Online version not for reprint

Special Accessories

Cutting Tools

1 STIHL Supercut 20-2 mowing head
4002 710 2162

2 STIHL Autocut 24-2 mowing head
4002 710 2109

3 STIHL Autocut 20-2 mowing head
4002 710 2106

4 STIHL Autocut 25-2 mowing head
4002 710 2108

5 STIHL Polymatic 30-2 mowing head
4002 710 2120

6 STIHL Polycut 20-3 mowing head
4002 710 2130

7 STIHL Fixed Line Head
4001 713 2102

8 Grass cutting blade 230-4 *
4001 713 3801

9 Grass cutting blade 230-8 *
4001 713 3803

* Not approved for FS 44 with loop handle.

Nylon line for cutting heads

2.0mm/0.08" diameter (green):
15m/50ft 0000 930 2217
for 4

2.4mm/0.095" diameter (orange):
15m/50ft 0000 930 2243
for 1 to 8

2.7mm/0.105" diameter (red):
10.7m/35ft 0000 930 2218
for 7 and 8

Thermoplastic blades
for 7
Pack of 12 4111 007 1001

Transport guard
for 9 and 10 4119 790 3906

Other special accessories

Shoulder strap
Full harness

Goggles

STIHL gear grease
(80 g/3 oz tube) 0781 120 1109
(225 g/8 oz tube 0781 120 1110
STIHL gear lubricant
(80 g/3 oz tube) 0781 120 1117
(225 g/8 oz tube 0781 120 1119

Online version - not for reprint

STIHL Incorporated Federal and California Emission Control Warranty Statement

Your Warranty Rights and Obligations

The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB) and STIHL Incorporated are pleased to explain the Emission Control System Warranty on your model year 2000 and later equipment type engine. In California, new small off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. In other states, new 1997 and later model year small off-road equipment engines must be designed, built and equipped, at the time of sale, to meet the U.S. EPA regulations for small non road engines. The equipment engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser.

STIHL Incorporated must warrant the emission control system on your small off-road engine for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road equipment engine.

Your emission control system includes parts such as the carburetor and the ignition system. Also included may be hoses, and connectors and other emission related assemblies.

Where a warrantable condition exists, STIHL Incorporated will repair your small off-road equipment engine at no cost to you, including diagnosis (if the diagnostic work is performed at an authorized dealer), parts, and labor.

Manufacturer's Warranty Coverage:
The small off-road equipment engines are warranted for two years in California. In other states, 1997 and later model year small off-road equipment engines are also warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by STIHL Incorporated free of charge.

Owner's Warranty Responsibilities:
As the small off-road equipment engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. STIHL Incorporated recommends that you retain all receipts covering maintenance on your small off-road equipment engine, but STIHL Incorporated cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

Any replacement part or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.

As the small off-road equipment engine owner, you should be aware, however, that STIHL Incorporated may deny you warranty coverage if your small off-road equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road equipment engine to a STIHL service center as soon as a problem exists. The warranty repairs will be completed in a reasonable amount of time, not to exceed 30 days.
If you have any questions regarding your warranty rights and responsibilities, please contact a STIHL customer service representative at 1-800-467-8445 or you can write to STIHL Inc., 536 Viking Drive, P.O. Box 2015, Virginia Beach, VA 23450-2015.

Coverage by STIHL Incorporated
STIHL Incorporated warrants to the ultimate purchaser and each subsequent purchaser that your small off-road equipment engine will be designed, built and equipped, at the time of sale, to meet all applicable regulations. STIHL Incorporated also warrants to the initial purchaser and each subsequent purchaser that your engine is free from defects in materials and workmanship which cause the engine to fail to conform with applicable regulations for a period of two years.

Online Version - Not for reprint

Warranty Period
The warranty periods will begin on the date the utility equipment engine is purchased by the initial purchaser and you have signed and sent back the warranty card to STIHL. If any emission related part on your engine is defective, the part will be replaced by STIHL Incorporated at no cost to the owner.
Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" will be warranted for the warranty period.
Any warranted part which is scheduled for replacement as required maintenance will be warranted for the period of time up to the first scheduled replacement point for that part.

Diagnosis
You, as the owner, shall not be charged for diagnostic labor which leads to the determination that a warranted part is defective. However, if you claim warranty for a component and the machine is tested as non-defective, STIHL Incorporated will charge you for the cost of the emission test.
Mechanical diagnostic work will be performed at an authorized STIHL servicing dealer. Emission test may be performed either at STIHL Incorporated or at any independent test laboratory.

Warranty Work
STIHL Incorporated shall remedy war-ranty defects at any authorized STIHL servicing dealer or warranty station. Any such work shall be free of charge to the owner if it is determined that a warranted part is defective. Any manufacturer-approved or equivalent replacement part may be used for any warranty mainten-ance or repairs on emission-related parts and must be provided without charge to the owner. STIHL Incorporated is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

The California Air Resources Board's Emission Warranty Parts List specifically defines the emission-related warranted parts. These warranted parts are:

Carburetor
Choke (Cold start enrichment system)
Intake manifold
Air filter
Spark plug
Magneto or electronic ignition system (ignition module)
Catalytic converter (if applicable)
Fasteners

Where to make a claim for Warranty Service
Bring the product to any authorized STIHL servicing dealer and present the signed warranty card.

Maintenance Requirements
The maintenance instructions in this manual are based on the application of the recommended 2-stroke fuel-oil mixture (see also instruction "Fuel"). Deviations from this recommendation regarding quality and mixing ratio of fuel and oil may require shorter maintenance intervals.

Limitations
This Emission Control Systems Warranty shall not cover any of the following:

- repair or replacement required because of misuse, neglect or lack of required maintenance,

- repairs improperly performed or replacements not conforming to STIHL Incorporated specifications that adversely affect performance and/or durability, and alterations or modifications not recommended or approved in writing by STIHL Incorporated,

and

- replacement of parts and other services and adjustments necessary for required maintenance at and after the first scheduled replacement point.

Online Version - not for reprint